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Washington Highlights

Hearings by the Senate and House joint committee on the economic report will start sometime in October. Senator O'Mahoney of Wyoming, ranking member of the committee, recently commented on the general economic life of the country, particularly as relates to living costs.

In a prepared statement, he asserted that rationing programs are now common in a number of industrial fields.

"Perhaps it should be pointed out," he said, "that evidence before the committee now shows that the automobile industry by private understanding is rationing the output of automobiles.

"The steel industry is rationing the output of steel. In each instance the product is distributed according to the ratio of distribution to purchasers before the war.

"Now the major oil companies are also undertaking to ration petroleum products. In other words, the consumers of the country are now subject to a private rationing system.

"Congress will have to decide whether the Government should wash it hands of the dilemma and allow big business to decide how the products of this country shall be distributed, or whether we shall undertake an intelligent program of stimulating production so that business users and individual consumers will not be subject to rationing either by Government or business, and so that by giving the world an example of what the people of a free country can do by working together, we can show the inhabitants of other nations how to produce and prosper."

Russia still is the recipient of inconsiderable shipments of United States produced oil. Washington observers believe, however, that even these minor shipments will soon come to an end due to the ruling now in effect that purchasers must disclose what use will be made of the oil. The land of the Soviets has yet to show a forthright disposition to explain her moves and probably would be reluctant in answering any question pertaining to oil buying.

Appointment of Howard W. Page, executive assistant to the president of New Jersey Standard, as acting chairman of the National Petroleum Council's committee on Government and military requirements has been announced by Walter S. Hallanan, chairman of the council.

Page, who has been a member of the committee since its organization and chairman of the subcommittee, will direct the committee's activities during the absence of Colonel J. Frank Drake, chairman.

Colonel Drake expects to be out of the United States a greater part of the next three and one-half months.

The Federal Power Commission revealed that the El Paso Natural Gas Co. of Texas had filed application for a $55,395,340 gas pipeline to supply California with an additional 200,000,000 cubic ft. of gas a day.

The company is the sponsor of a $53,800,000 project now under construction between Texas field and Blythe, California, to deliver 505,000,000 cubic ft. daily to Southern California distributors. The California link was undertaken by Los Angeles gas organizations.

Under the new proposal a new 438-mile, 26-inch loop line is called for to increase by 100,000,000 cubic ft. daily the delivery capacity for an earlier authorized carrier from Lea County, New Mexico, to the Colorado River near Blythe.

Construction of a 470-mile 26-inch pipeline also was proposed from San Juan County, New Mexico, to the California-Arizona border in the vicinity of Needles, with an initial capacity of 100,000,000 cubic ft. a day.

In filing the application the company took into consideration the shortage of all types of steel tubular goods and indicated that the lines proposed probably could not be completed before 1952.

Edwin W. Pauley of Los Angeles, president of the Petrol Corp. and Democratic National Committeeman from California, has arrived here to accept a new post in the Truman administration.

The Department of Justice has launched a grand jury investigation here on oil prices and distribution. Involved in the District of Columbia case are a major oil company and retail gasoline dealers. They are charged with illegal conspiracy to fix-prices.

Industry Will Meet Its Problems

By Don E. Gilman
Executive Vice President
Western Oil and Gas Association

During recent months newspaper stories and radio broadcasts have given emphasis to shortage, real and potential, of certain oil products in specifically designated areas. This publicity has contributed to the general belief that we are approaching a general critical shortage of fuel oils, gasoline and other necessary petroleum products throughout the nation.

It is important that the American public, which has become so dependent upon petroleum for so many things, should know the truth about this situation, and in the course of this article we will try to present evidence that the situation we face is temporary and is neither widespread nor particularly critical. In fact, the immediate critical situation could be promptly met by conservative driving and careful use of products in those areas where the shortages are acute.

The question may very well be asked "If, as you say, we are not facing a permanently critical shortage, should we be alarmed?" The answer is long but clear.

Demand for oil products is setting new records and is substantially higher now than it was in wartime. In fact, in the United States alone as much oil is used today as the entire world used about ten years ago.

This year, 1947, the domestic consumption of finished products, manufactured and refined, by the American petroleum industry is at the rate of 574 gallons a year for every man, woman and child in the country. That is an increase of 110 gallons, or nearly 24 per cent over the per capita use in 1941, and 56 gallons, or approximately 11 per cent, over the national average in 1946.

The over-all figures of consumption of United States petroleum at home and for export reach astronomical proportions. They are so great that merely to repeat them would only impress you with their size and might over-impress you with their importance. In addition to the increased consumption of gasoline there is also increased consumption in fuel oils and in the lighter types of fuel oil used in home heating and for diesel engines. Even kerosene, which is far less important than a few years ago, is consumed in greater quantities than ever before.

Don E. Gilman

At this point I want to refer to recent newspaper publicity about the shipment of petroleum products abroad. Actually these shipments are relatively unimportant and represent but a fraction of one per cent of our total production. Furthermore, they are more than offset by importations of crude oil from other countries. Maintenance of balance of trade is important, and refined petroleum products are sorely needed abroad. If no shipment whatever had been made to any foreign country, it would not have relieved the shortage problem in the middlewest, as I will try to demonstrate in what follows.

Statistics make uninteresting talk and are of primary interest only when one can sit down and analyze and digest them, therefore I will not stress the statistics of this situation. Let's look instead into the causes responsible for the unprecedented increases in demand.

First, there is the restoration of motor vehicle usage. By mid-summer registration throughout the nation indicated that there would be approximately 36 million vehicles—an increase of 1,630,000 as of the end of last year and compared to 35,000,000 on December, 1941, which was the prewar peak. Not only are there more vehicles of all kinds but there is apparently a greatly stepped up use of these vehicles, therefore increasing the demand for motor fuel.

Second, the large military requirements. For military and shipping needs of the next fiscal year the Army-Navy board estimates it will require 82,000,000 barrels, and there is an indication that these needs may be increased. Prior to the war in Europe the needs for military requirements averaged less than 12,000,000 barrels annually, or about 14 per cent of the estimated current requirements.

The third point increasing the use of fuel is the high rate of industrial production. We needn't tell you about that as it is a matter of common knowledge that this industrial production increases the demand for heavy fuel oils and industrial lubricating oils. This increase is almost in direct proportion to the increase in the industrial products index. Industrial demand for factory use is exclusive of demands resulting from increase of automobiles, motorboats, tractors and other internal combustion engines.

We could go on outlining many causes of increase — among them farm prosperity with the increased use of powered equipment—the increase use of diesel engines, railroads, buses, trucks, replacement of electric streetcars by diesel-propelled buses, the increased fuel oil burner installations where formerly coal and other fuels were used. Some of these demands, particularly in the eastern section of the country, have been further increased by the fear of continued coal shortages as a result of coal strikes.

There is increased use for liquefied petroleum gas where domestic

gas is not available. Although there is a large decline in aviation gasoline by comparison with the use during the war, there is a steadily increasing demand due to increased commercial aviation. So much for the reasons for increased requirements.

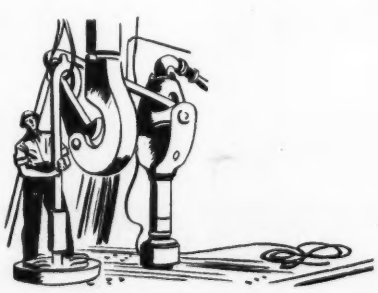
Why are these shortages? If you have followed the news reports or radio broadcasts you would have observed they are acute or dangerously near being acute in the midwestern area—an area of large demand with very limited local supply, and dependent almost entirely upon the transportation of petroleum products through the various means; that is, pipeline, tank car and tank truck. All of these are in short supply. Pipe has not been available to increase the pipeline service; tank cars and tank trucks have not been increased in number due to shortage of steel and other automobile requirements. There are plenty of petroleum products available in the areas producing them if transportation were available to get them where they are required. The petroleum business is a weight-lifting business. It is a matter of taking weight out of the ground and transferring it first to refineries and later to points of distribution through mechanical processes.

Due to the shortage of steel and resultant shortage of oil-drilling tools there has been a decrease in new wells and exploration. However, there is ample supply of petroleum products or liquid petroleum to meet the total demands of 1947 which are estimated 5,733,000 barrels per day. No other industry has been more resourceful in meeting the increased demand for its products than the oil industry. The future of an oil company depends upon the availability of crude oil in its estimated underground reserves; therefore, its continued success depends upon exploration which means the seeking out of new fields with new reserves, and developments which mean the drilling and production from new wells in proven areas.

According to the bulletins of the American Petroleum Institute, production of crude oil in the United States currently is running at the daily rate of about 5,100,000 barrels. This is determined upon the average in a typical period. This,

you will notice, is 633,000 barrels a day less than the estimated requirements and therefore must be amplified by supplies from other sources. It is not generally known that 362,000 barrels daily of other liquid hydrocarbons (natural gasoline and benzol) are derived from natural gas and other sources. To this also must be added imports of heavy fuel oils and crude oil amounting to 450,000 barrels a day. The daily average, therefore, of available hydrocarbons of petroleum in various forms is approximately 5,812,000 barrels, the average consumption 5,733,000. In other words, there is a daily production in excess of demand.

Following the end of World War II, alarming statements were made by certain government officials indicating that there was a rapid decline in the underground reserves of petroleum and that the decline was so alarming that the nation within a comparatively short period would have a greatly reduced supply of necessary petroleum products. This statement was entirely without foundation, according to the most experienced and best qualified experts in the business. Although the war period saw the heaviest daily production ever experienced, and our production supplying 80 per cent of the world's requirement, the exploration and expansion of the industry increased the known proved underground reserves to a new high. Instead, therefore, of there being a decline in the known



reserves there was an increase. This does not mean that there is more petroleum all the time, because actually it is an expendable resource. Once gone, it cannot be recovered; therefore, continuous exploration in new territory and in deeper territory is necessary to keep our reserve constant.

There have been many pessimistic forecasters over many years who have predicted the end of our petroleum resources, and yet we still have greater reserves than ever before known. Twelve years ago before a committee of the Calfiornia State Legislature a petroleum geologist testified that all of the petroleum resources in California would be exhausted in ten years. So, according to his theory, we shouldn't have any reserves or industry in California today, and we should have been out of business two years ago. In spite of this pessimistic viewpoint, even California is at its highest point of known reserves, and while no really major discovery has been made in several years, there is a constant flow of new discoveries which indicate our requirements will be met for some years to come.

In addition to crude oil there are other natural sources of hydrocarbons. Coal is admittedly practically inexhaustible. Germany was compelled, because of the destruction of the oil fields upon which it was dependent, to develop its gasoline requirements from coal the latter years of the war. Laboratory work and experimentation is going on right now to develop economical means of extracting or distilling the gasoline from coal in this country. It is theoretically possible at this minute to meet all of our gasoline requirements from that source but the price under present conditions would be prohibitive.

Another almost inexhaustible source is oil-bearing shale. Certain deposits of this in Colorado alone would supply the needs of this country for years to come.

It must be borne in mind that all of these new developments are expensive. The motor-using public has been the beneficiary of constantly increasing efficiency in methods of production and refining, and has purchased a steadily improving product at a price actually one-half

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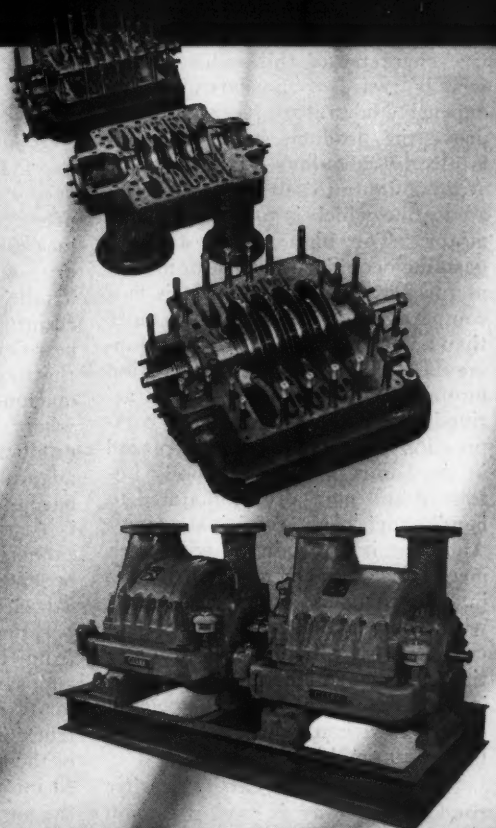

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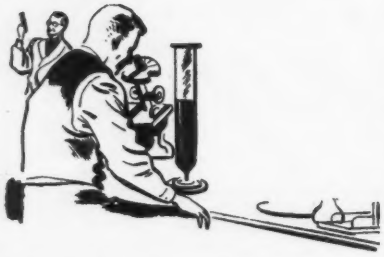


that of relatively a few years ago. In paying the present price for gasoline, the user usually doesn't realize that in California he is paying a 38 per cent tax on a house brand product, that is a gasoline made strictly by refining processes and to which no supplementary ingredient such as ethyl has been added—all the finest gasoline in the history of the industry now being sold through the pumps of American oil companies.

There is a persistent belief that the oil companies hold back improvements in their products. To anyone who knows the highly competitive character of this industry and who is aware of the extended and expensive laboratory research to improve the product, such statement is utterly ridiculous. It is possible at this minute to sell to the motorist a gasoline which is too good for his motor. The high octane aviation gasoline would ruin an automobile motor, but one realizes that it is a comparatively short time, little more than a generation, since the development of the internal combustion motor, and that already it has arrived at a place where high compression and high speed are placed in the hands of persons wholly untrained and normally unqualified to handle such a powerful instrument. And that it is produced with such mechanical refinements and operating controls that it can be handled with comparatively safety. Much credit is due not only the automotive industry which made it mechanically possible but to the petroleum industry, without which there would be no automobiles.

What I am getting at in a rather round about way is saying to you that to maintain not only present production but to increase this production to meet the constantly growing demand the industry, like all other industries, will probably face substantially increasing costs. Oil wells which in the beginning produced oil from 70 to 100 feet under the surface of the earth have now been successfully drilled to nearly 20,000 feet, or almost four miles into the ground. The cost of these wells represents just two things: labor and material, these materials being steel in the form of pipe and tools, and labor, like all labor, constantly demanding increased compensation. If it had not been for the constantly improved scientific methods of refining, exploration and production, the present cost of refined petroleum products would be prohibitive to the average citizen.

Before going into some of the developments which are part of the insurance of continuing supply this industry is giving the public, let's analyze for a minute just what you can buy in a pound of gasoline. I speak of it as a pound so we can compare it to something else.

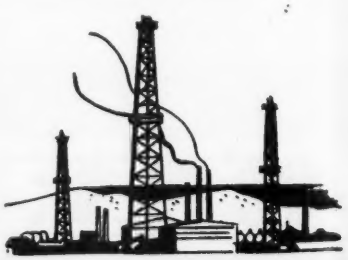
A producer hires a highly paid crew of skilled workmen using expensive material and supplies to drill a well. He not only has to drill one but sometimes three or four or five to find oil, and he drills from a depth of 3,500 to 12,000 feet. The deeper the hole, the greater the expense proportionately. He finally locates oil and surrounds his discovery with modern equipment to handle it efficiently, and it is pumped into pipelines which carry it into petroleum refineries, representing the most intricate and complicated machinery and refining processes, where it emerges in the form of products of different kinds and adaptable for various uses. The gasoline which you use in your car is carried to the service station in expensive tank truck equipment. Expensive because all of the mechanical elements used in handling of petroleum have to be engineered from the standpoint of efficiency and safety—not merely engineered for transportation alone. From the truck it goes into the storage tank of the station, and from there pumped into the tank of the car. During the entire process it has never been handled or seen by a human being, and yet after passing through all of these various channels and refined and secured through complicated modern equipment, it is sold, less tax, cheaper than bottled water or milk, or a pound of potatoes, and incidentally but importantly, for much less than an inferior product sold a few years ago.

The motor fuel of the future will probably cost more because of the deeper sources from which it is drawn and the constant increasing cost at which it will be secured. In the end, the price of the product must bear this cost. That is simply economics or simple arithmetic, whichever you wish to call it.

To meet the constantly increasing demand, the industry has steadily increased its refining capacity. As of June 30 this year this was estimated at 6,648,000 barrels a day. The industry has also substantial inventories of refined products. These amount to more than 240,000,000 barrels, including gasoline made from natural gas. These stocks are not distributed uniformly throughout the country. That is why, as I said in the beginning, there is no shortage of available supplies. The shortage is in transportation facilities by which they could be moved. Furthermore, it is not practical to set up large storage facilities all over the country. Most companies maintain limited storage facilities in order to be cushioned against sudden demand. It is not economical or practical to distribute these products through an elaborate system of storage tanks generally spread throughout the country.

Adequate transportation facilities are under construction but with the materials shortages referred to, and unsatisfactory deliveries, it is not likely that transportation capacity will be increased materially before the end of the year. In order to meet current shortages the industry is making maximum use of existing equipment.

It is not generally known, but it is a fact, that the price of certain grades of fuel oils in Southern California is the lowest of any point in the world. That situation, which can be logically explained, has led to Southern California being the



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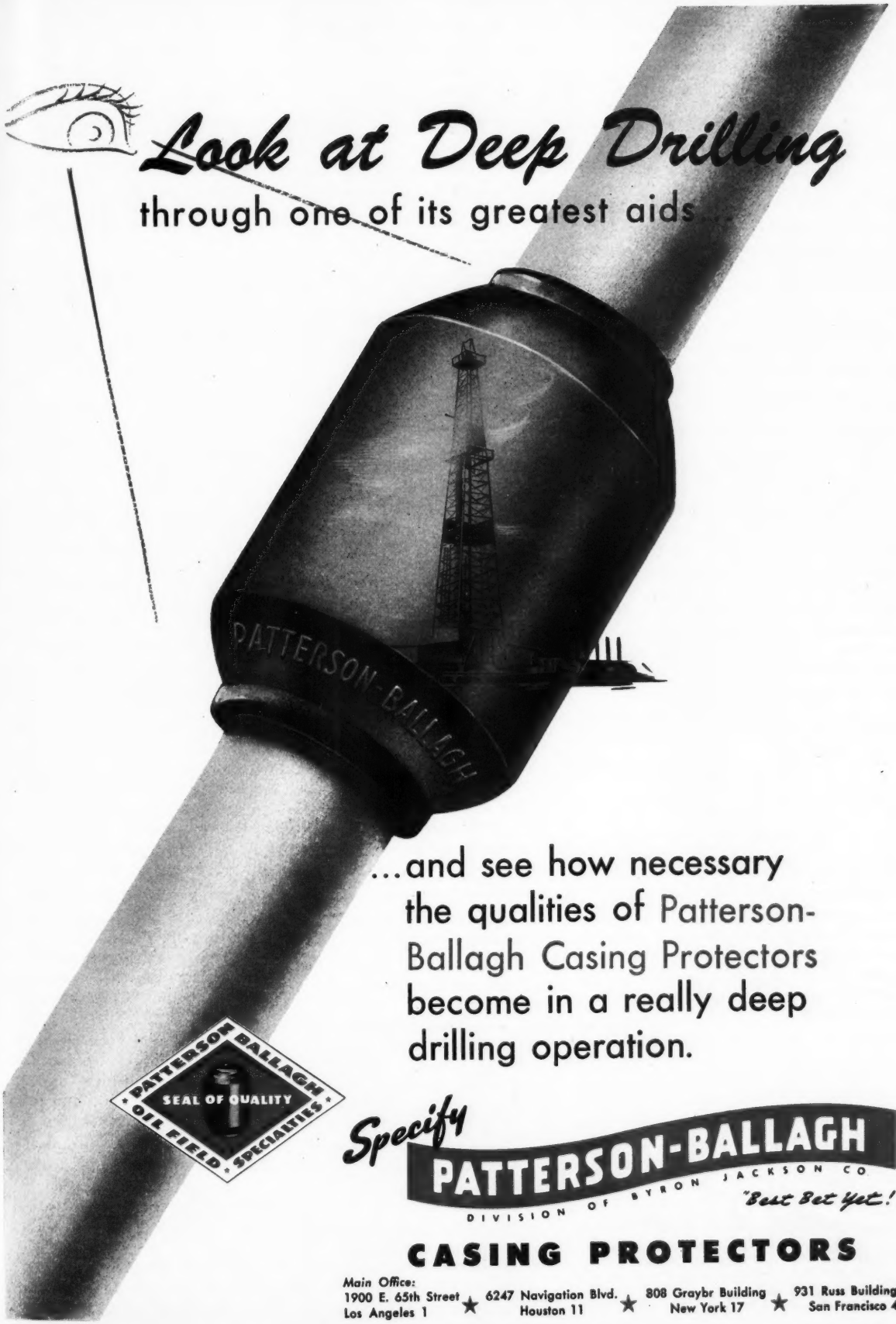

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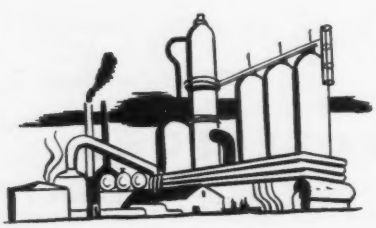
focal point for purchase of fuel oils and the consequent excessive demand. This is the only product in which there may be some shortages this year. The increased use of diesel equipment is also taxing diesel fuel production, and certain corporations planning the installation of heavy diesel equipment have been advised not to do so until the industry is prepared to meet their requirements.

Referring to the West Coast situation, a national survey had this to say: "The West Coast statistical position appears to be satisfactory both from the standpoint of supply and local demand, although best estimates are, while the industry will meet all potential demands, it will require everything it can produce."

Let's review briefly some of the points we have discussed: From what I have said it must be obvious the present problem facing the oil industry is lack of adequate transportation facilities. This shortage is not due to failure to anticipate the problem, but rather to the lack of essential materials with which transportation facilities could be provided. The same shortages have delayed or stopped extensive exploration and development necessary to produce new oil at new depths and in new locations.

To meet growing demand some means fust be found to extend pipelines, increase the number of tank cars, and oil barges, and to provide modern and sufficient drilling tools and equipment.

Another critical situation is the need for tank cars for the transportation of liquefied petroleum gas. More than 2000 of these cars are required. According to the Office of Defense Transportation there will be 1300 of these cars short of the requirements. Again, however, let me emphasize that this is a problem elsewhere, not in California or the West Coast.



What the Industry is Doing

To meet rising demands for its products the oil industry is making record capital investments of more than four billion dollars in the two year period, 1947-1948, to provide for new and expanded facilities throughout the country:

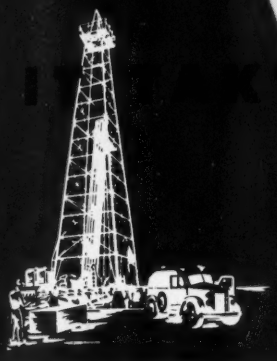
1. It will drill this year an estimated 35,000 new oil wells, a new high record, including approximately 5000 wells for exploratory purposes in the hope of finding new oil reserves. In the production division alone, the industry will make capital outlays estimated at more than two billion dollars in the two-year period.
2. It has plans under way for construction of refinery facilities having a capacity of about 450,000 barrels of crude daily, but the construction of these installations will take from six to twenty-four months from the start of construction. There is a prospect that this figure will be augmented in the near future. Expenditures for refining facilities in the two years are estimated to exceed one billion one hundred million dollars.
3. It is building new pipelines, and expanding old ones, as well as providing for other transportation equipment on which it will make an aggregate investment in 1947-1948 of approximately four hundred forty million dollars; and
4. It is investing about four hundred eighty million dollars in new marketing facilities.

The industry has raised the nation's proved crude oil reserves to a new high record and is maintaining the large production of crude oil consistent with sound conservation practices. This assures the nation an adequate supply of petroleum products. Like other industries, the oil industry is finding these increased production operations are very costly. It is operating some obsolescent refining capacity in addition to its modern, more efficient facilities, to serve public, military and industrial demands, and some of these refineries are operatiing well above their rated capacities. It is transporting crude oil and products from the southwest to the middlewest by tank cars at greater expense than by pipeline and barge.

What the Public Can Do

To assist the industry in storing the available supplies and making the most of existing transportation facilities, the consuming public also has its responsibility. In times of great emergency the public responded splendidly to requests of government and of industry for cooperation. We have in mind a slogan used throughout the nation by the industry—"Oil is Ammunition, Don't Waste it!" The public has an equal responsibility in this emergency. We are so accustomed to having everything we want that we do not like to feel we have to curtail our own requirements to help others. And what I am saying here, again let me emphasize, applies particularly nationally. At the present moment there is no shortage of needed automobile fuel in this area. Nevertheless, the following practices are good at any time and will make for a saner and more sensible use of this important product:

1. Driving in a more conservative manner and taking good care of automobiles, thus spreading gasoline supplies in each area and making it possible for all car owners to get the supply they need.
2. Filling, and keeping filled, its fuel oil tanks so that the industry can utilize its storage capacity at maximum to prevent a local exhaustion of supplies.
3. Maintaining moderate temperatures in homes during the coming heating season, thus spreading supplies so that no one suffers discomforts from lack of fuel oil, and
4. Keeping a cool head and not becoming hysterical and pan-



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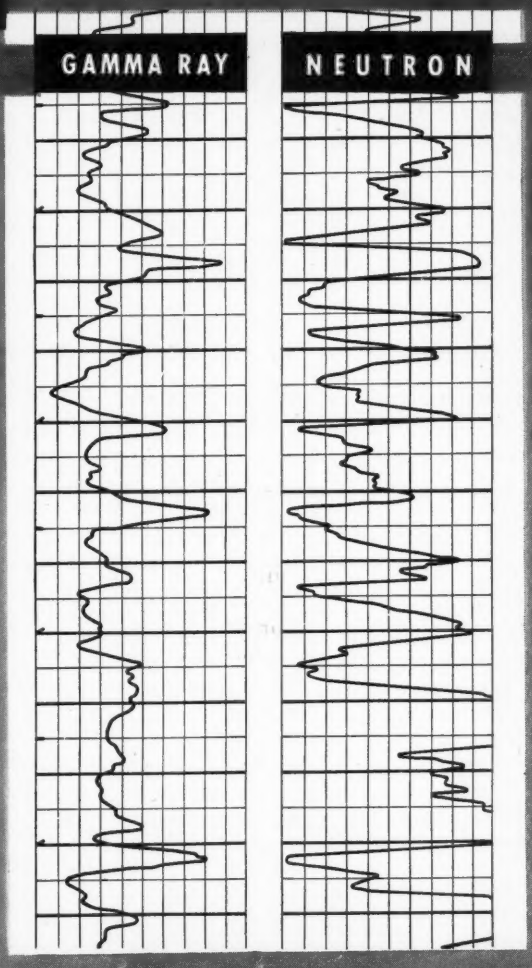

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icky over sensational and misleading newspaper reports.

In this America of ours it is a national tragedy if there is a shortage of anything anywhere. A nation which has wallowed in abundance and been almost profligate in its consumption of its great natural resources has difficulty in readjusting itself to any form of self-denial. Fortunately, the oil industry has been far-sighted in its preparation for constantly increasing demand for its products, and has developed not only more but better fuels. Only the maladjustments resulting from war have temporarily inconvenienced a section of the country. The oil industry will meet this problem. The public may be assured that the industry which has unfailingly met every demand upon it will not fail it now.

C.N.G.A. August Meeting

From the standpoint of National Defense, the early utilization of atomic energy in industry is desirable, Dr. Robert Cornog, former Chief Engineer of the Los Alamos Atomic Bomb Project, told California Natural Gasoline Association members at their August 7th meeting at Rio Hondo Golf Club. The uranium piles which would supply this energy to industry would, at the same time, he stated, be capable of supplying as a by product, the material required for the construction of atomic bombs. In addition, the piles would also supply as by products materials of great utility in biological and chemical research.

Dr. Cornog stated that practically any atomic nucleus can be split by hitting it with a slow neutron; but that the uranium nucleus was the first observed to release neutrons during the process. The neutrons thus released are capable of striking and causing splitting (fission) in other nuclei; the reaction is thereby made self perpetuating.

He stated that about 75 percent of the energy released during fission is represented by the kinetic energy of the two fission fragments. In the interior of the pile this kinetic energy is converted into heat energy and can be recovered as such commercially. Some of the remaining 25 percent of the energy is released as electrical charges. It would seem that these charges might be collected and distributed commercially as electrical energy. The potentials would be enormous, however, (several million volts) and no known insulators would be satisfactory. Because of the technical difficulties involved, Dr. Cornog believed that the direct commercial use of this electrical energy was far in the future.

The prospect for commercial use of the heat energy of the piles is much brighter. Dr. Cornog stated that if a central station securing its heat from uranium piles could be built for about twice the cost of a power plant using coal or oil fuel, then even at present prices uranium could compete with conventional fuels. He thought that this economy in construction might be effected in the forseeable future.

Piles also produce many radio active isotopes. These had been prepared in minute quantities before the war, Dr. Cornog stated, and had been found of great use in biological and chemical research. For example, by using a radio active calcium isotope in the preparation of calcium compounds, it was possible to determine in which forms calcium is most readily assimilated in the tooth and bone structure of the body. This information has been of great use in combating tooth decay during pregnancy. In the field of chemical research, radio active isotopes have been used to trace the path of organic reactions. This use will be of importance to companies engaged in petro-chemical research. Since uranium piles produce these isotopes in considerable quantity, their use in research is expected to be greatly accelerated and expanded.

Some possible non-research uses of radio active isotopes were also discussed. In cycling and pressure maintenance operations, Dr. Cornog stated, operators are interested in knowing if gas is by-passing from injection wells to producing wells. The introduction of carbon monoxide and helium into the injection gas has been proposed. By analyzing the producing well effluent, such movements can be detected. The use of radio active gases would afford a more positive and probably less expensive check. For example, five percent injection gas could be detected in the output of a producing well if the injection gas contained one one hundredth of one cubic foot of radio active hydrogen per million standard cubic feet. This radio active hydrogen could be in the form of methane and thus chemically indistinguishable. If quick decontamination of the reservoir is desired, an isotope with a short life should be used. Xenon, a gas with a half life of 5 days would decay to such an extent that it could not be detected within a month.

Carnotite, a radio active mineral, has been added to oil well cement in order that the location of the cement behind the casing may be checked. An objection to the use of carnotite is that, because of its greater density, it tends to separate from the cement slurry. The use of radio active calcium in the cement would eliminate this trouble.

Sand Hills Test Fails

Western Gulf Oil Co. has abandoned its S. P. No. 1 deep test in Sec. 15-12n-20w in the Sand Hills area east of the Paloma field. The project went to 15,092 ft., at which point a fishing job was brought about by the drill pipe twisting off. Fishing resulted in recovery of drill pipe to 14,226 ft.

The company's Di Giorgio No. 2 in Sec. 10-31s-29e in the Arvin area is making hole ahead in schist below 6400 ft. B. & M.-U.S. No. 1, a wildcat in Sec. 30-11n-23w in the Pioneer Anticline area is rigging up. Tejon Ranch No. 1 in Sec. 29-11n-18w near El Paso Creek is reaming, with bottom of the hole at 2949 ft. A formation test of the interval of 2853-2949 ft. failed of its purpose.

Bacon Hills Well Fishing

Normal operations in recent days at Seaboard Oil Co.'s No. 24-21 test venture in Sec. 21-28s-20e in the Bacon Hills area have been necessarily retarded by a fishing job centered on cutters.

During fishing more hole was made and additional oil sand recovered. Indications are that the well is in the top of the Oceanic oil sand zone. Present depth is 8070.

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Personalities IN THE NEWS

New District Managers For Du Pont's Tetraethyl Lead

Five district offices have been designated and managers named as plans progress for the Du Pont Company to market tetraethyl lead anti-knock compound for motor and aviation fuels beginning Jan. 1, 1948. A complete petroleum chemicals service laboratory will be set up in each district.

Du Pont has been manufacturing tetraethyl lead at Deepwater Point, New Jersey, for the past 24 years. Its present contract with the Ethyl Corporation expires at the end of 1947 after which date these anti-knock compounds will be sold direct to the oil refining industry through Du Pont's expanding Petroleum Chemicals Division.

District headquarters will be:

At Tulsa, Oklahoma, for the Mid-Continent District, with Charles Wirth III as manager;

At Houston, Texas, for the Gulf Coast District, with Joseph A. Hyland as manager;

At Los Angeles, for the West Coast District, with David H. Conklin as manager;

At Chicago, for the Chicago District, with Earl G. Bennett as manager, and

At Wilmington, Delaware, for the Eastern District, with Norman Kent as manager.

The appointments, effective immediately, were announced by Ray E. Miller, director of sales.

Charles Wirth III, 42, heading the Mid-Continent District, was born in New Orleans, La., on Nov. 7, 1904, and received his M.S. degree in organic chemistry from Tulane University in 1927. He worked as a research chemist, successively, for the Gulf Refining Company, Miller Rubber Company, and Universal Oil Products Company. Except for war service—May 21, 1942, to Nov. 1, 1945, when he was released as a lieutenant colonel — he was employed by Du Pont as a technical demonstrator from Oct. 23, 1939.

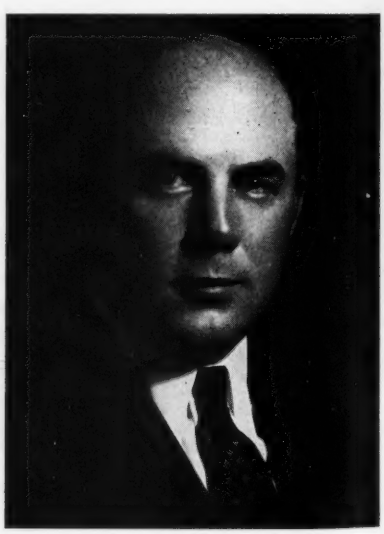
Joseph A. Hyland, 39, heading the Gulf Coast District, was born on Governors Island, New York, Aug. 13, 1907. He received his M.S. degree in chemical engineering from Texas A. & M. College in 1930. He served eleven years in the refining division of the Gulf Oil Corporation at Port Arthur, Texas, and Philadelphia, leaving in 1941 to enter the Navy's petroleum inspection service. He concluded six years of Navy service early in 1947 as a commander with the Army-Navy Petroleum Board in Washington, and joined Du Pont on Feb. 13, 1947.

Earl G. Bennett, 39, heading the Chicago District, was born in Syracuse, New York, on June 24, 1908, and obtained his B.S. degree in chemical engineering from Clarkson College in 1931. He joined the Grasselli Chemicals staff of the Du Pont Company in 1931, at the New Jersey Works. He served in various sales capacities with Du Pont from 1934 to 1944. On Jan. 1, 1947, he was assigned to the Petroleum Chemicals Division.

Norman Kent, 37, heading the Eastern District, was born in Brooklyn, N. Y., Feb. 20, 1910. He received his M.E. degree from Stev-

David H. Conklin

John F. Shaw



Geo. L. Tyler

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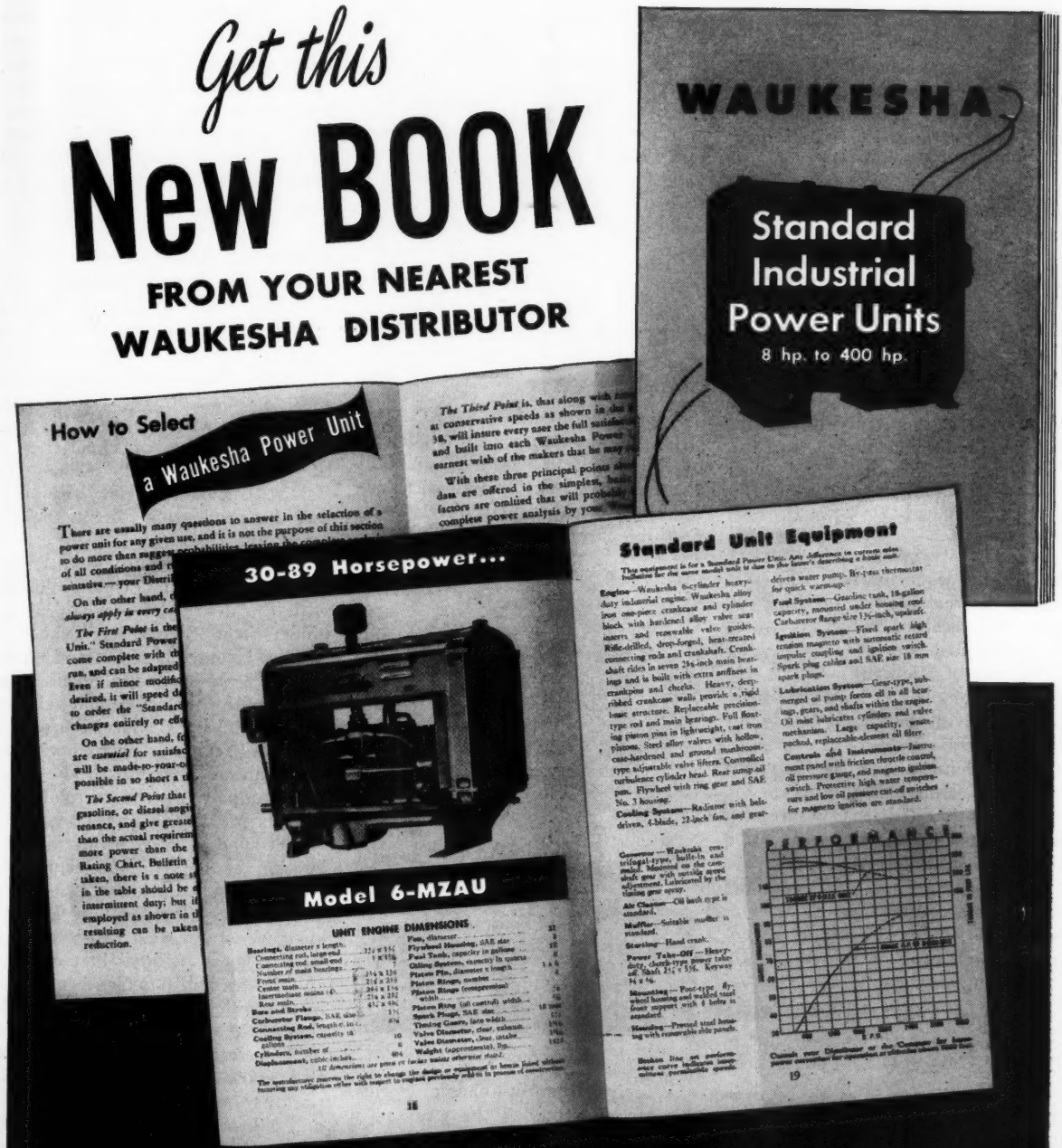

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Texas, Houston 10
Utah, Salt Lake City 2
Vermont, New York 54
Virginia, Richmond 20
Washington, Seattle 4
Washington, Spokane
West Virginia, Charleston
Wisconsin, Waukesha
Wyoming, Denver 16
Wyoming, Salt Lake City 2

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ens Institute of Technology at Hoboken, N. J., in 1932, and his M.S. in chemistry the following year. He did graduate work in business administration at the University of Chicago. In June, 1933, he joined the Du Pont Company and was assigned to the Jackson Laboratory at the Chambers Works, Deepwater Point, N. J. He was transferred to the tetraethyl lead area in 1934 and to the Technical Laboratory the following year, both at the same location. From 1936 he was a member of Du Pont's Dyestuffs Division's sales staff in Chicago until he left for Army service in August, 1942. When he left the Army in March, 1946, as a major, he returned to the Technical Laboratory, and was transferred, on April 15, 1946, to the Petroleum Chemicals Division.

David H. Conklin, 34, heading the West Coast District, was born in Battle Creek, Mich., on June 30, 1913, and received his B.S. degree in mechanical engineering at the University of Michigan in 1935. He joined Ingersoll-Rand in California in 1935, leaving in May, 1941, to enter the Navy. He was in charge of ship repair at various locations for the Navy. He recently received the Order of the British Empire for meritorious service in connection with British ships. He returned to Ingersoll-Rand on release from the service as a commander, in November, 1945. In May, 1947, he resigned at which time he joined the Du Pont Company.

Assisting Conklin in Sales Service on the West Coast are John F. Shaw and George L. Tyler.

John F. Shaw, 34, was born in Houston, Texas on December 5, 1912, and received his B.S. in Mechanical Engineering at the University of Texas in 1934. He joined the Reed Roller Bit Company in Houston in 1935, and served in various engineering capacities both in Houston and Los Angeles. He has also been connected with the Crum-Brainard Company in Whittier, and with the Waldrip Engineering Company of Hollydale as Assistant Chief Engineer. In April, 1947, he resigned from the Waldrip Engineering Company, at which time he joined the Du Pont Company.

George L. Tyler, 49, is a native of Michigan, but a resident of California since 1910. For nine years prior to his joining the Petroleum Chemicals Division of Du Pont Company, he was Secretary-Treasurer of California Natural Gasoline Association. He is a graduate of the University of Southern California Law School, and has been active in the natural gasoline and other branches of the oil industry in California for over twenty years.

Armstrong Named Assistant to Board Chairman Standard Oil

Appointment of Herbert D. Armstrong as assistant to the chairman of the board of the Standard Oil Company of California was announced recently. He has been assistant treasurer.

H. D. Armstrong

Widely known in financial circles, Armstrong attended the University of California and Hastings College of Law, where he received his law degree in 1933.

Following his admission to the bar, he joined the San Francisco law firm of Agnew and Boekel, where he served as assistant to the general counsel of the Federal Reserve Bank of San Francisco.

In July, 1939, he became head of the discount and credit department of the Reserve bank and in 1942 was made head of the Evacuee Property department of the bank. Later he became assistant cashier. In this position his duties included direction of foreign funds control operations, handling funds of aliens and frozen holdings of invaded nations.

His home is in Woodside Heights, San Mateo County. He is a member of the Bohemian Club, Menlo Circus Club, Commercial Club, and Theta Xi and Phi Alpha Delta fraternities.

Thermoid Announces Executive Appointments

Appointment of M. R. Bell of Cleveland as assistant rubber production manager for Thermoid Company has been announced by Fred Schluter, president of the company. Bell, who brings to his position many years of experience in the engineering field, becomes assistant to Lester F. Cox, vice-president for production for the Trenton company.

A native of Chicago, Bell attended schools there, and was graduated with the degree of mechanical engineer from The Case School of Applied Science in Cleveland. After several years in plastic development work with the National Carbon Company, Vinylite Division, Cleveland, he became associated with the Aeronautical Division, B. F. Goodrich Company on the correlation of designs for aircraft components.

Bell spent four years in war production as plant manager for the Aeronautical Division of Pharis Tire and Rubber Company in Parkersburg, West Virginia. More recently he has been engaged in consulting and design and has also been active in the widely expanding labor relations field.

"The return to a highly competitive market re-emphasizes the importance of product specialization and a broad flexibility in manufacturing plans," said Mr. Schluter. "Mr. Bell's engineering experience and consulting background make a valuable addition in this respect to Thermoid's expanded program."

Appointment of L. I. Berry as production engineer for the Molded Hose Division is announced by Fred Schluter, president of the Thermoid Company, Trenton, N.J. Coming to Thermoid after serving as superintendent of construction and installation of new equipment for the Hewitt Rubber Company, Buffalo, N.Y., Berry also devoted many years to molded hose development

and production with the U.S. Rubber Company and its subsidiary, the Mechanical Rubber Company of Cleveland.

A native of Cleveland, Berry attended schools there and matriculated at Hiram College, Hiram, Ohio, where he majored in engineering. During the war years, he served first as plant engineer and subsequently became works manager for the Warren City Tank and Boiler Company, Warren City, Ohio.

Commenting on the assignment, Mr. Schluter said, "The expansion of Thermoid's production facilities to keep in step with the growth in the company's sales, necessitates the selection of a number of trained and experienced men for our several plants. Mr. Berry's wide experience in engineering and rubber production dovetails with the requirements at Thermoid's new plant at Nephi, Utah, where we expect to be in full production by the first of the year."

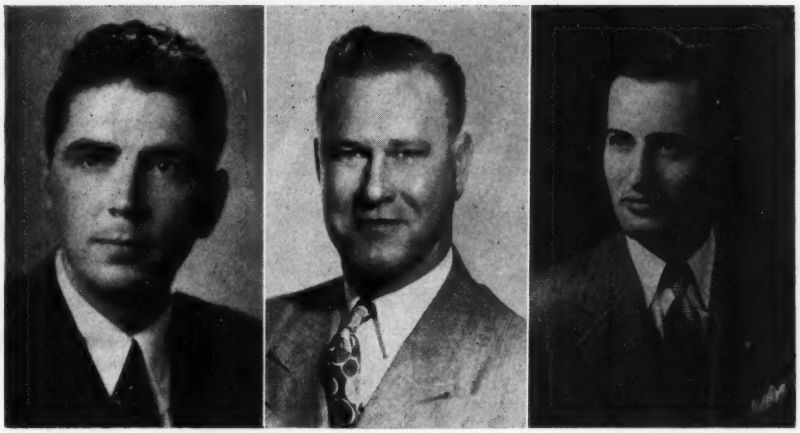
Appointment of Miss Miriam C. Ronga, former central New Jersey representative of the fashion magazine **Mademoiselle,** to the advertising staff of the Automotive Division, Thermoid Company, Trenton, N. J., has been announced by Fred Schluter, president of the concern. Miss Ronga will be advertising assistant specializing in layout and copy, and follow-through activities on printing production.

A graduate with a Bachelor of Arts degree from the Advertising-Journalism course at Georgian Court College in Lakewood, N. J., Miss Ronga previously engaged in retail advertising in the department store field. She has also taught Journalism I and II at Georgian Court.

Technical Service Department Formed at Ideco

G. W. Walton, V.P., Machinery and Export Sales Division, International Derrick and Equipment Company, has announced the establishment of a Technical Service Department, with headquarters at Dallas, Texas. Mr. Walton believes his company is the first manufacturer of drilling, servicing and producing equipment to provide technical service of this nature, for both domestic and foreign trade.

Members of the department are specially trained engineers who have made thorough studies of the design, construction, operation and servicing of each item of equipment. Their thorough training plus broad experience in the industry qualifies them as oil field machinery specialists. Their services are available for specific problems as well as group meetings of distributors and sales personnel. They also work with the trade either direct or through the customers selected source of supply. Through these contacts they convey technical information on the latest development in drilling production and servicing machinery.



Blaine Johnston, Jr. N. J. Herman E. F. Shiels

Brief backgrounds of three of the members of the Technical Service Department are given below.

N. J. "Tiny" Herman has been in oil field engineering for ten years. He assisted in designing and engineering the Triplex Slush Pump and the Clark-Ideco Power Rig. He was in charge of tools, jigs and fixtures for the manufacture of the equipment and has spent considerable time in the field checking drilling performances and playing a major role in servicing the rigs. Herman attended Houston University and has had wide experience in designing and producing oil field machinery. He was formerly a member of the Houston Engineers Club.

Blaine Johnston, Jr., received his early schooling at Southern Methodist University and later attended the University of Southern California. He has been in the oil field equipment business for ten years both in Mid-Continent and California areas. He has been associated both in domestic and export activities. Johnston assisted in the design and production of the Rambler Rig and Hydrair Hoist. He has made surveys on hydraulic torque converter operations and has spent considerable time in the field checking performance and service records in drilling, servicing and work-over operations.

E. F. "Gene" Shiels is a graduate of Texas A&M and received a period of training at the GE Plant in Schenectady. Shiels served as Major in the artillery during World War II. He assisted in the design and production of power rigs at the Beaumont and Columbus plants and has been active in the Mid-Continent area where he has checked power rig performances and service requirements.

Along with the facilities of this department are the services of local field service organizations that are available to all distributors of Ideco oil field machinery.

Loud and Osmer Advanced By California Research

Election of J. H. Osmer as secretary of California Research Corporation, Standard of California subsidiary, was announced recently. He succeeds O. S. Loud who will now devote full time to expanded duties as coordinator of patents and infringement.

Osmer, a graduate of Princeton University, joined Standard in 1921 as a pressure still fireman at the oil company's El Segundo refinery. Six years later, after service in the re-

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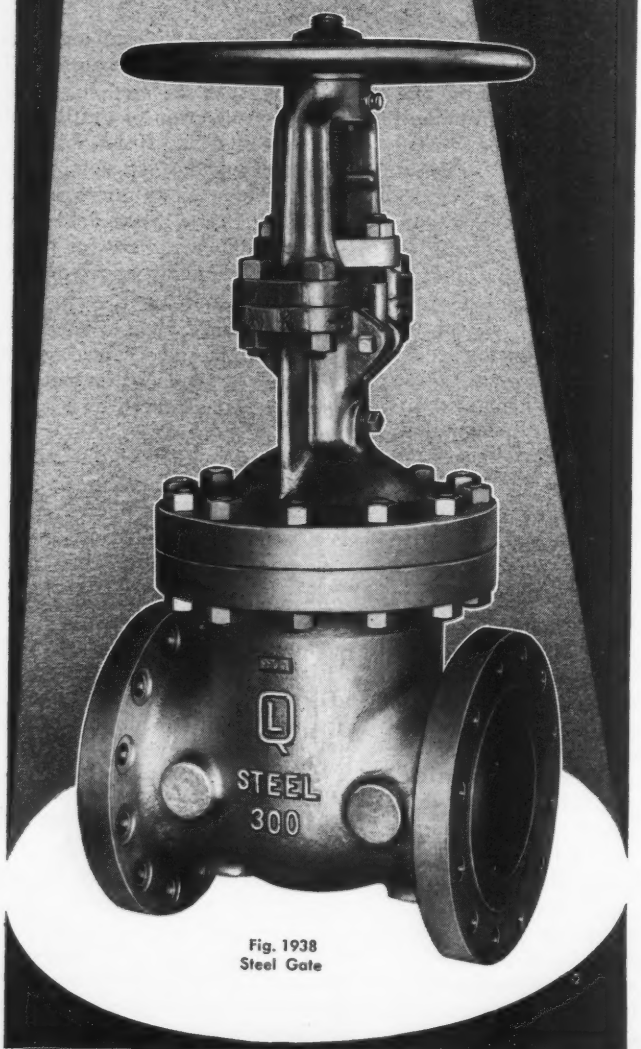

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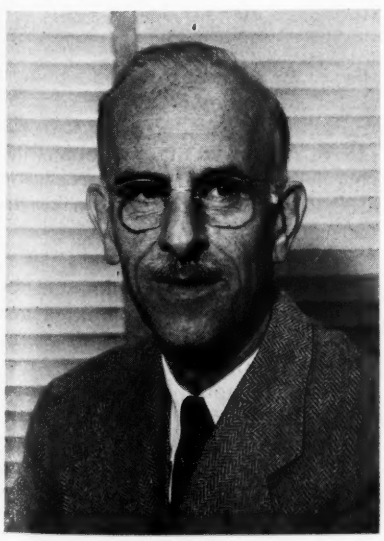
O. S. Loud

finery's chemical laboratory and research division, he was transferred to Standard's patent department in the San Francisco office.

He continued to serve in the patent department which in 1944 became part of the then newly-established California Research Corporation. His most recent position was coordinator of infringement.

Loud has been with Standard for 27 years. He joined the company as an analytical chemist in the chemical laboratories at the Richmond refinery. In 1922, two years later, he transferred to the research division and served in the grease laboratory and in naphtha refining processes.

In 1930 Loud joined the patent department as assistant to the patent counsel. He subsequently became coordinator of patents in charge of the protection of the company's inventions in chemical and refining processes and products. He was elected secretary in addition to his patent duties in 1945.



J. H. Osmer

Clark Bros. Announce New York Office Changes

Clark Bros. Co. regrets to announce the resignation of T. Fred Hudgins as Export Manager in the company's New York office at 122 East 42nd St. Mr. Hudgins leaves to found his own business in Dallas, Texas.

R. R. McCartney while retaining his post as Clark Bros. District Manager, will assume Mr. Hudgins' duties as Export Manager. Avery G. Van Campen, who has for the past two years headed the Technical Service Department in the New York office, will in the future be the Sales Engineer. Robert Spears for a number of years in the Technical Service Department in Clark Bros., home office at Olean, New York, and who was recently transferred to the Technical Service Department of the New York office, will take over Mr. Van Campen's post as head of that department.

Bauman Addresses West Coast Transportation Meeting

An eight-point program, designed to give the truck operator maximum efficiency at the lowest possible operating cost, was outlined by J. N. Bauman, Vice-President of The White Motor Company, before the national West Coast transportation and maintenance meeting of the Society of Automotive Engineers, Inc., on Aug. 21 and 22 at the Biltmore Hotel, Los Angeles.

This program, evolved after long months of careful study and application by White Company engineers, is the first constructive attempt made by the industry, Bauman said, to analyze and correct the inefficiences which have long plagued the truck owner.

Bauman described eight principal methods by which each individual truck can be applied to the work it is to do economically and accurately. These are:

1. Determination of the work that the truck is going to be required to do.
2. Determination of the horsepower required to perform this work properly.
3. Selection of the correct model, and determination of its wheelbase and load distribution.
4. Selection of the proper tire sizes and type for most efficient operation.
5. Selection of the proper type of axle best suited for the work that is to be done.
6. Determination of the proper rear axle ratio to bring about the greatest over-all economy of operation.
7. Selection of the type of transmission that will give the most efficient operating condition.
8. Selection of the various optional equipment items that will make possible maximum results.

J. N. Bauman

Each of the eight points in the program stresses the importance of maintaining a proper balance between the truck and the work it is required to do.

Bauman pointed out that if this eight-point program for screening both the job and the truck were used, that truck operation inefficiences would largely disappear. Many who heard Bauman's discussion stated that it was the most scientific approach to the truck selection problem that any truck manufacturer has ever offered — and a real contribution to the buyer who

now has a yard-stick to use in approaching his problem.

Operating expense is automatically reduced, Bauman added, since every truck selection can be operating at maximum efficiency once the program is adopted.

"In all other forms of machinery and tool equipment sufficient time is taken to thoroughly analyze the requirements of the job to determine the equipment that will perform it most efficiently," said Bauman. "It is time that the motor truck industry takes the same position. It is time that the user and the manufacturer, through its representatives, gives the proper planning and thought to the efficient and accurate application of its product to the work it is to accomplish. If proper consideration is not given to the application of motor trucks, the motor transport industry will always be penalized by higher costs than are necessary, and it will serve as a limiting factor in its ultimate goal to attain its full potential."

C. Haines Finnell of Arcadia, Union Oil public relations expert, is showing the beauties of Southern California to his mother, Mrs. H. W. Finnell of Forest Hills. L. I., who flew to the Pacific Coast by airliner.

On an extended vacation is Sam Goldman, sales director for Douglas Oil of California. During his absence, Chuck Dowden, assistant director of sales, is in charge of company sales.

William Alfred Lucas, 88, died in a San Diego hospital. He had been identified with oil development for 60 years, before retiring in 1928.

Will J. Reid, president of Hancock Oil, presided over the giant dinner in Los Angeles, celebrating the company's silver anniversary. Dealers, distributors and company representatives from all parts of California were on hand to enjoy the superlative cuisine and the top-flight entertainment.

Fred M. Manning, well known Mid-Continent drilling contractor, is spudding-in a new well for Continental Oil Company in San Joaquin Valley. Known as the KCL-L-2 this deep test is being closely watched by prominent California oil men. This is the first time that Fred M. Manning has operated a string of tools in California.

The rig is equipped with the latest, most modern oil field equipment. Three GENERAL MOTORS quads power an EMSCO J-1250 drilling rig equipped with a dynamatic brake. The 178' IDECO derrick is rigged with M-50 crown and traveling blocks. EMSCO JCS-20½" rotary machine is used.

Shown left to right are: A. J. Olson, chief engineer Continental Supply Co.; W. R. Fairbanks, roughneck Fred M. Manning Co.; C. T. Whitney, drilling supt. Fred M. Manning Co.; J.C. Craig, drilling supt. Continental Oil Co.; Ed Sutton, driller Fred M. Manning Co.; and Cecil Crolley, Lester Hoewing, and Bob Doolan, members of the Fred M. Manning drilling crew.

The World Supply Co has been organized in Long Beach to conduct a supply sales and service business. H. B. Jordan is president, Clyde Simpson, vice-president and Charles Reimer, secretary-treasurer.

Ralph K. Davies, Deputy Petroleum Administrator during the war and former senior vice president of Standard of California, will serve as president of the newly-incorporated American Independent Oil Co. Other officers of the $100,000,000 corporation include vice president Sam B. Mosher, J. Howard Marshall and K. S. Adams.

Organized to engage in foreign operations, chiefly in the Middle East, main offices will be in San Francisco and Washington, D.C.

Lowell W. Stalcup is president, A. G. Stalcup, vice president, and William Parks, secretary-treasurer of the new Petroleum Piping and Engineering Co. on Norwalk boulevard in Artesia. The company is engaging in the piping and engineering business.

Senior high student, Bill Jackson, who works after school in the Santa Maria production office of the Sunray Oil Corp. is obviously safety-minded. According to the company's house organ, he left a note one night for his dad's secretary, Jerry Dalton, reminding her always to put out the cigarette in her ash tray before leaving the office.

W. O. (Bill) Stolker of Standard of California's motor transport department at the Richmond refinery has designed and built an operator guard for tow-motor fork-lift trucks. It is so designed that any object falling from the front, top or back of the fork-lift will not strike the operator.

Harvey W. Lee, Union Oil Co. geologist, has been appointed general chairman for the 24th annual meeting of the Pacific section, American Association of Petroleum Geologists at Pasadena, November 6-7. Walter Heathman, also a member of the Union Oil family, has been named manager of the company's oil operations in Washington, with headquarters in Olympia.

Eastman Buys Oil Field Service Company

H. John Eastman, President of the Eastman Oil Well Survey Company, announces the purchase by his company of the Oil Field Service Company of California.

Of unusual interest in the transaction is the fact that Mr. Eastman entered oil field work as an employee of the Oil Field Service Company, where he worked for seven years before resigning to organize his own company.

The Oil Field Service Company, and its former owner, R. D. "Pat" Elliott, are widely known on the Pacific Coast for their work in the modern "water witching" of wells. This company was the first to use a conductor cable in an oil well, some twenty-five years ago, for the determination, through surface readings, of the point of salt water entry.

H. John Eastman

Due to Mr. Eastman's long firsthand experience in this work, he is prepared to give his customers the same high standard of service which they have enjoyed from Mr. Elliott. Plans are already under way to extend this service to all oilfields served by the Eastman organization, and to expand and improve the scope of the service through its incorporation with the rapidly growing Eastman Electronic Survey services.

Mr. Elliott, who is retiring from oil field work, plans to do some long-postponed traveling with Mrs. Elliott, and then to devote his attention to his extensive real estate interests.

Severns Drilling Co. crew which drilled and placed on production British American Oil Prod. Co.'s Texaco Comm. No. 1 well at Alondra Park. The well was spudded on April 30, 1947 and completed on August 10 at 9238 feet for an initial yield of 750 barrels daily.

Operations were marked by a 40-day fishing job, the crew sidetracking about one mile of drill pipe.

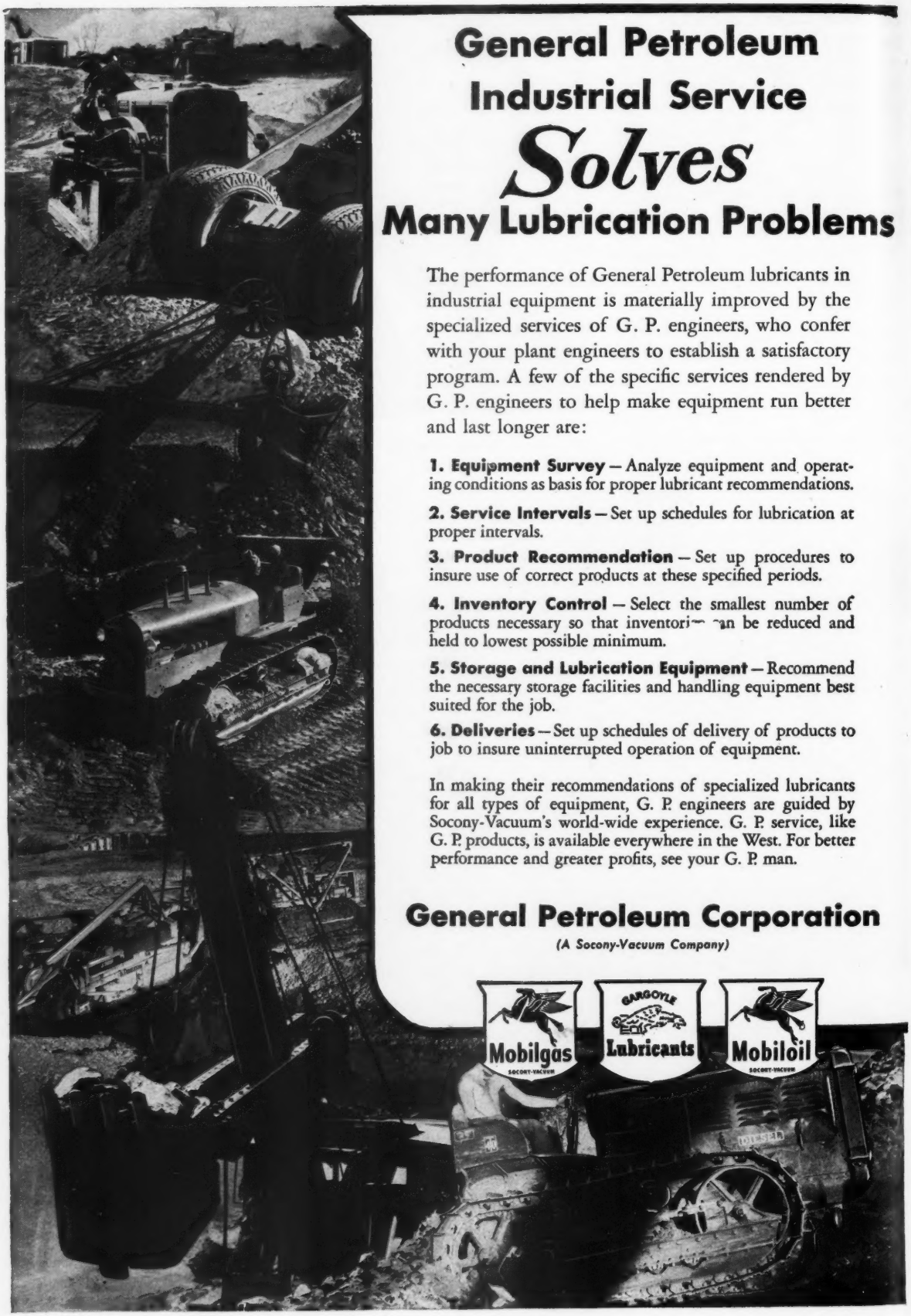
Severns Drilling Co., in recognition of the crew's expert and adroit fishing ability, chartered a special boat for the men for a literal fishing expedition off Catalina Island.

Incidental to the cruise, Severns officials stated, was a desire to ascertain if the members of the drilling crew could put to practical experience the knowledge gained in fishing in oil wells to snagging denizens of the deep.

First row, left to right. S. Massie, J. A. Manson, T. R. Ice, W. Osborn, L. J. Osborn, F A. Klosterman, E. Hughes and R. D. Disher, superintendent.

Standing, left to right. C. D. Adney, G. W. Babbitt, W. R. Nesbitt, R. C. Johnson, J. R. Senske, B. D. Chastain, W. G. Johnson, R. Ballard, J. M. Fry, Len Drace, J. T. Hogg and Earl Cotter.

It will be noted that Superintendent Disher is showing only the upper portion of a 25 pound albacore, which he lured on to a hook. The missing part was bitten off by a hungry shark and Disher obviously is doing his best to keep the mishap hidden. Cotter is the proud displayer of a 20 pound tuna, and Hughes, a 15 pound blue-fin tuna.



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The performance of General Petroleum lubricants in industrial equipment is materially improved by the specialized services of G. P. engineers, who confer with your plant engineers to establish a satisfactory program. A few of the specific services rendered by G. P. engineers to help make equipment run better and last longer are:

1. Equipment Survey — Analyze equipment and operating conditions as basis for proper lubricant recommendations.

2. Service Intervals — Set up schedules for lubrication at proper intervals.

3. Product Recommendation — Set up procedures to insure use of correct products at these specified periods.

4. Inventory Control — Select the smallest number of products necessary so that inventori— —an be reduced and held to lowest possible minimum.

5. Storage and Lubrication Equipment — Recommend the necessary storage facilities and handling equipment best suited for the job.

6. Deliveries — Set up schedules of delivery of products to job to insure uninterrupted operation of equipment.

In making their recommendations of specialized lubricants for all types of equipment, G. P. engineers are guided by Socony-Vacuum's world-wide experience. G. P. service, like G. P. products, is available everywhere in the West. For better performance and greater profits, see your G. P. man.

General Petroleum Corporation

(A Socony-Vacuum Company)

IF YOU WANT TO KEEP OUT OF *Scrapes*

...get a BAKER WALL SCRAPER on the job! It will enlarge the hole, or just scrape off the "cake" whichever you want. Blades open positively — do their stuff — and then close to come safely out of the hole. It's easy to run.

BAKER *Rotary* WALL SCRAPER

ASK THE *BAKER* MAN

Due to the ingenuity and foresight of C. V. Dittman, drilling superintendent for General Petroleum, a "safety slide" has been developed and is standard equipment on all company drilling derricks and well pulling jobs where there is a possibility of fire.

Virgil W. Yonce, local manager for Shell Oil Co. at Vallejo in the Oakland division, has been appointed a director of the Community Chest.

Graydon Oliver is engineer for Caliente Oil Co., which is drilling an interesting test north of the Edison field.

Ed Christianson, Southern Counties Gas Co. adjuster in the Santa Barbara office, has returned from a two-week camping trip at Huntington Lake in the Sierra.

William Helm is president of the new American Oil Corp., of Fresno. H. M. Oliver is vice president. F. G. Anderson is secretary-treasurer. Offices are in the Helm Building.

R. E. (Bob) Schmidt, mud-engineer for Drilling & Exploration Co. in the Ventura area, his wife Margaret and daughter Marilyn, recently completed a vacation spent motoring to Bryce Canyon, Utah and the Grand Canyon, Arizona. They returned to California by way of old Mexico.

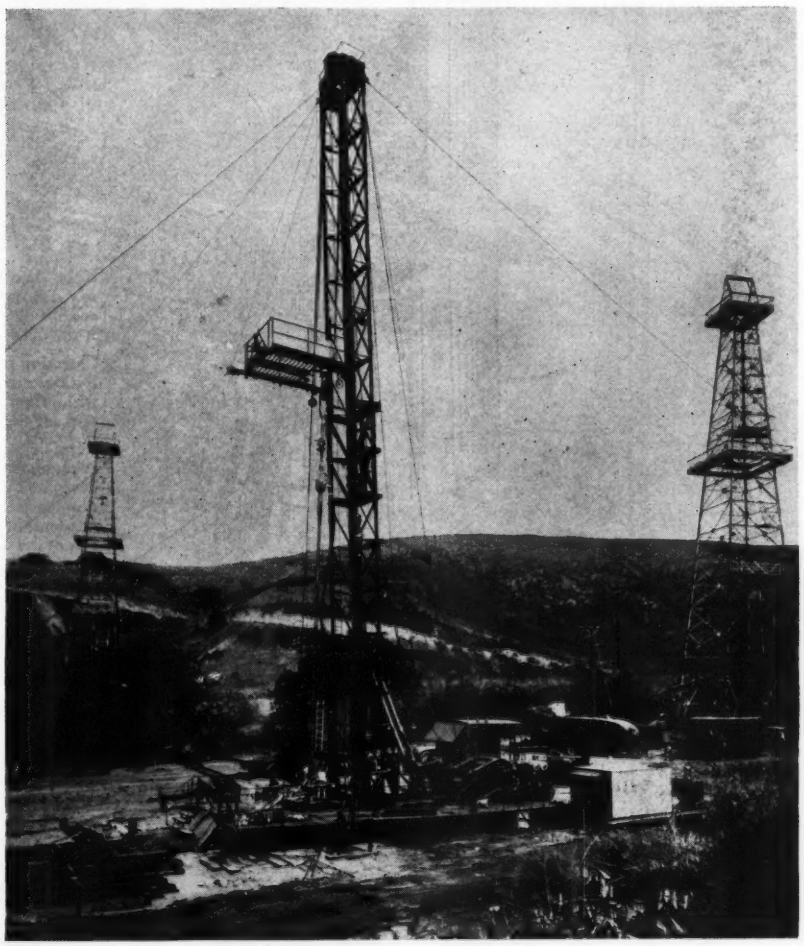
H. F. Sinclair has resigned as president of the Sinclair Refining Co., but will continue as head of the Sinclair Oil Corp., it was announced in New York. He will be succeeded by J. C. Spencer, prominent in the oil industry for 25 years and general counsel of the corporation since 1946. The refining firm is the most important subsidiary of Sinclair Oil Corp. and includes the crude oil and products pipeline transportation and refining and marketing operations of the parent organization.

Ventura Avenue Adds New Well

Present production rate of British-American Oil Prod. Co.'s recently completed Hartman No. 15 in the Ventura Avenue field is 463 barrels of 33 gravity oil and 400,000 cubic ft. daily through a 15/64-in. bean. Total depth is 11,707 ft. Bolsa Chica Oil Corp. holds a 40 per cent interest in the 57-acre lease, which offsets ground producing for Shell.

Oxnard Wildcat Will Soon Spud

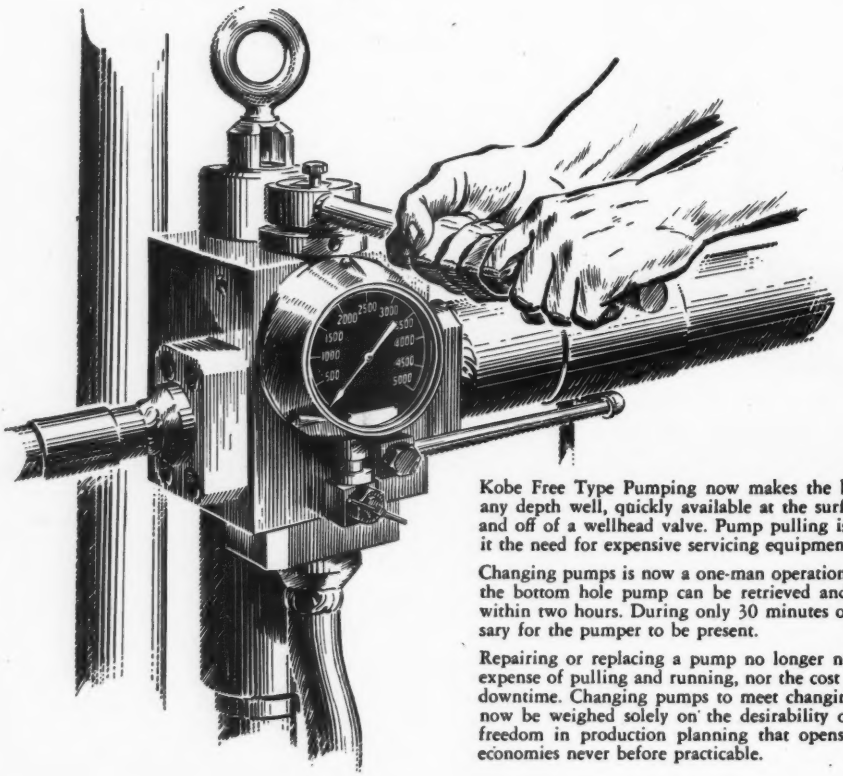
Signal Petroleum of Calif. is rigging to spud Schumate No. 1 test in Sec. 28-2n-21w, approximately one mile northeast of the Oxnard field on a 250-acre lease. The objective will be Miocene production anticipated above 3000 ft.



Powered by a 290 HP General Motors Twin 6 Diesel engine this Ideco H-40-D rig is currently drilling to a depth of 6000 feet through an extremely hard and faulty formation near Brea, California. The unit is completely portable being mounted on a semi-trailer and equipped with a 96 foot telescoping mast.

THE PUMP THAT'S NEVER PULLED...

...it's surfaced and seated by the turn of a valve!



Kobe Free Type Pumping now makes the bottom hole pump, any depth well, quickly available at the surface by the turning and off of a wellhead valve. Pump pulling is eliminated, and w it the need for expensive servicing equipment.

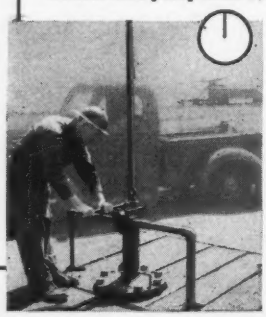
Changing pumps is now a one-man operation. In a 5,000-foot w the bottom hole pump can be retrieved and a new pump run within two hours. During only 30 minutes of that time is it nec sary for the pumper to be present.

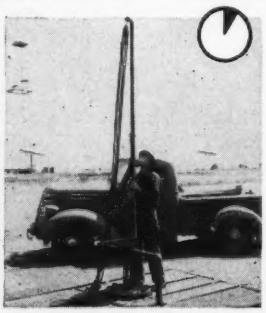
Repairing or replacing a pump no longer need involve the add expense of pulling and running, nor the cost of lost production a downtime. Changing pumps to meet changing well conditions c now be weighed solely on the desirability of the change. Here freedom in production planning that opens up opportunities f economies never before practicable.

KOBE FREE PUMP

Kobe Free Pump is an adaptation of the conventional Kobe Hydraulic Pump. "Free" refers to the fact that it is not suspended on rods or tubing. It is an individual unit that is raised and lowered in the well tubing, hydraulically.

To Surface Pump: As shown below, changing a Free Pump is a one-man operation. Here are pictured three steps in retrieving the bottom hole pump from 5,000 feet: (1) Turning 4-way valve handle at wellhead to "pu out" position to unseat pump. (2) Rais collapsible mast. (3) Lifting surfaced pu from well. Elapsed time, 55 minutes.





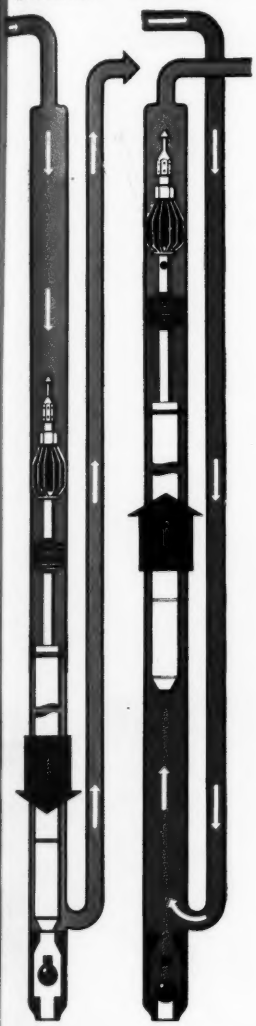
KOBE

***FREE TYPE PUMPING* IS THE GREATES**

HOW SYSTEM WORKS

TO SEAT: Oil pressure is directed down power tubing, forcing pump to seat. On seating, pump starts pumping oil immediately.

TO SURFACE: Power oil is reversed down production tubing, forcing pump off seat and up power tubing. At top, pump slides into catcher.



NEW KOBE *Free Pump* REDUCES PUMPING OPERATING COSTS 25%

By eliminating pump pulling, servicing equipment, lost production and downtime, Free Type Pumping has effected the greatest saving yet achieved in pumping operations. A recent survey of major producing areas shows that this amounts to at least 25%.

It is now necessary to re-evaluate all pumping operations and to measure them in terms of the savings made possible by Free Pumping. In most cases, you will find that Free Pumping can change red figures to black; place marginal wells in the profit column.

The lower operating cost of Free Pumping assures the recovery of more oil per well, and the pumping of wells longer. This means a measurable addition to your recoverable oil reserves.

PROVED IN FIELD

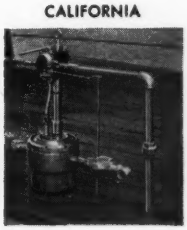
Free Pumping is the culmination of eight years of research and four years of field testing. The equipment has been tested under a wide variety of operating conditions. Today, Kobe Free Pumps are being installed in oil fields throughout the United States. Below are recent installations.

Free Pumping is a new application of a proven practice. Hydraulic pumping, from which it sprang, has long been recognized as the most efficient method of producing oil and has paved the way for today's developments. Call your local Kobe representative for information on how you can change over to Free Type Pumping. Start now to eliminate pump pulling from your operating budget.

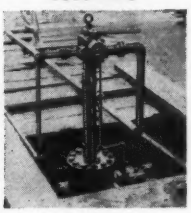
TEXAS

OKLAHOMA

CALIFORNIA



COLORADO



KOBE

ONE OF THE DRESSER INDUSTRIES

WRITE FOR BOOKLET

To Seat Pump: Seating the Free Pump is as simple as retrieving it. (4) Pumper hooking new pump into pump catcher to lift it from field pick-up truck. (5) Placing pump in well preparatory to seating. (6) Turning valve handle to "pump in" position. This reverses oil pressure down power tubing, forcing pump to seat. Running in time, 40 minutes.

To learn how the Kobe Free Pump can reduce your pumping costs and simplify your production problems, write for the booklet, "Free Type Pumping." It will be forwarded without obligation. Please print your name and address.

- **KOBE, INC.** General Offices: Huntington Park, Calif. *Division and District Offices:* Bakersfield, Ventura, and Huntington Park, Calif.; Vernal, Utah; Oklahoma City and Tulsa, Okla.; Brownfield, Dallas, Houston, Longview, Odessa and Wichita Falls, Texas; Great Bend, Kansas; New York City, N. Y.

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Field Development

PREPARED FROM CALIFORNIA OIL WORLD NEWS SERVICE

Los Angeles Basin

Basin Drills Inglewood Try

Basin Oil Co. has spudded and is drilling its third well in the Inglewood area below 3700 ft. Known as Inglewood Comm. No. 2-1, it is located in Sec. 28-2s-14w. The company's recent completion, City of Inglewood No. 1, established an initial yield of 217 barrels of 30.1 gravity oil and 1,500,000 cubic ft. of gas daily through a 15/64-in. bean.

Beach Try Promising

On the flats between Huntington Beach and Newport Beach, Honolulu Oil Corp. evidently has found something interesting with its Lamb No. 1 in Sec. 6-6s-10w. On formation test of oil sand in the upper C zone, the well flowed an estimated 720 barrels daily. The try is now standing with 7-in. casing cemented at 5870 ft. Total depth is 5986 ft.

Location for Watson-Mau No. 1 has been made in Sec. 31-5s-10w near Newport Beach.

Anaheim Try Location Made

Tide Water Associated Oil Co. has location staked for Blum Comm. No. 1 in Sec. 31-5s-10w in the Orange area of Orange County.

Ramona Well Running Liner

In the Ramona field, Universal Consolidated Oil Co. has reached

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4210 ft. with Aguirre No. 202 in Sec. 13-4n-18w and is reaming to run liner. The Miocene Kern zone was topped at 3130 ft.

Newhall Try Drills

Mutual Development Corp. is making rapid time with the drill below 3200 ft. with Lassalle No. 1 in Sec. 10-3n-16w in the Newhall area.

Corona Del Mar Wildcat Digging

Morton and Sons' second exploratory venture in the Corona Del Mar area of Orange County, Irvine No. 56-1 in Sec. 24-6s-10w, is making hole ahead near 2400 ft.

Beach Wells Programmed

Harry Hunter and Associates are starting a new well in the Huntington Beach field at the northwest corner of 16th and Palm streets. Miller & Ford also is the sponsor of a new drilling job in the field. It is Tunstall No. 1 in the vicinity of Acacia and 22nd street. Morton & Kohlbush, meantime, has abandoned Town Lot No. 6 near 21st and Palm streets. The hole was carried to 2052 ft.

Del Valle Try Washing Perfs

After being swabbed in for an estimated 400 barrels a day, R. E. Havenstrite, Operator, is washing perforations in Lincoln No. 15 deep test in the Del Valle field. Drilled to a total depth of 12,868 ft., reperforations are at 10,100-10,300 ft.

Barnes No. 7, meantime, is redrilling from 1976 feet. Bottomed originally at 6644 ft., the well will be deepened to about 6800 ft. Barnes No. 9 is a rig only.

Newhall-Potrero Project Testing

General Exploration Co. is testing its Ferguson No. 3 in Sec. 36-4n-17w in the Newhall-Potrero area, after recementing splice on 1306 ft. of blank liner cemented on bottom at 9147 ft. Casing is set at 7995 ft.

Electric log and cores are reported encouraging. The capacity of the well to produce on conventional tests are awaited with interest.

Standard Starts Newhall Wildcat

Standard of California is starting Newhall Land & Farming No. 5-1 in Sec. 34-4n-16w in the Newhall area. Drill site is about one-quarter of a mile from the corner of Newhall and 15th street in the town of Newhall.

The company's Tustin Comm. No. 1 in Sec. 21-4s-9w in the Orange area has reached a depth of 1002 ft. and is preparing to set surface casing.

Alondra Park Test Drilling

British-American Oil Prod. Co. is drilling below 3150 ft. with Bodger No. 4 in Sec. 22-3s-14w in the Alondra area of Los Angeles County. Surface pipe is set at 1040 ft. Petrol Corp.'s School House No. 1 in Sec. 22 is a foundation. No. 2 is a cellar.

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Lawndale Well Tests

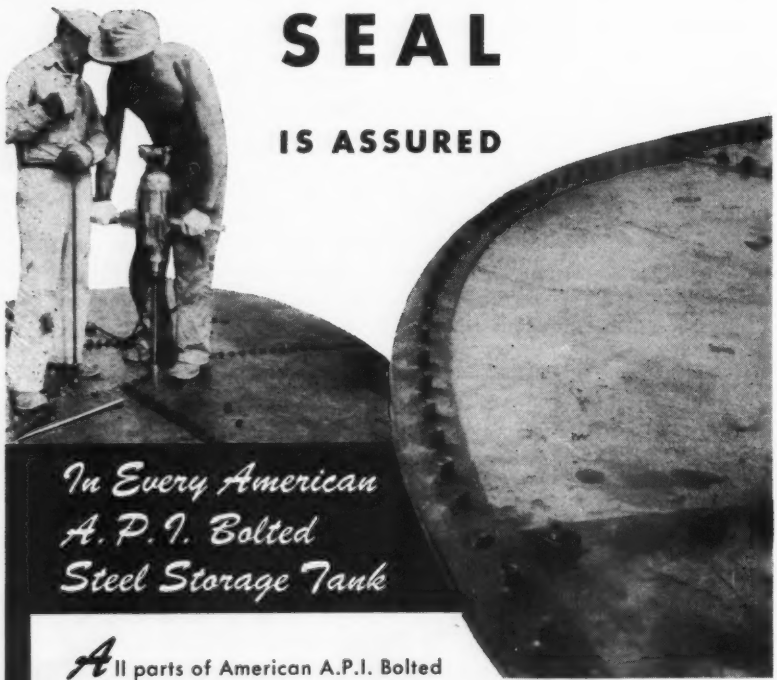
Squeezing and testing continues the order of the day at Seaboard Oil Co.'s Johnson No. 1, which apparently is a discoverer of new deep zone production in Sec. 17-3s-14w in the Lawndale field. Original depth is 8026 ft., with plug at 7887 ft.

In the Westminster area of Orange County, Seaboard is rigging up to start the drill in Bauer No. 44-17 in Sec. 17-5s-10w.

Val Verde Try Cores

Spot coring at 2757 ft. describes present operations with Texas Co.'s Malis No. 1 test well in Sec. 10-4n-17w in the Val Verde area of Los Angeles County.

A PERFECT SEAL IS ASSURED



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The Doheny banner continues in the forefront of important oil development.

Three grandsons of the famed oil pioneer, E. L. Doheny, are identified with a prospective oil campaign in the Belmont Heights area at East Long Beach.

The grandsons—Patrick A., William H. and E. L. Doheny III—are owners and directors of the Los Nietos Co., which is putting together a single sub-surface community lease in the area involving about 5000 separate ownerships of residential and business lots. The lots average in size 50 by 135 ft. and collectively embrace around 1000 acres.

Wells proposed will be slant-drilled from established sites outside the area in question for a distance between 1 and 1½ miles to reach the anticipated objective formation.

The first test well probably will entail an expenditure of $400,000. Success in the initial test would call for a full scale development program of the area at a cost estimated at $15,000,000.

Oil development in the area heretofore has been barred by restrictive city ordinances and the built-up character of the district. Advances in the technology of slant drilling now permits the development of sub-surface beds from far removed established zones, without disturbing normal use or value of the surface properties.

Los Nietos Co. has the exclusive right to slant drill through the Pacific Electric right-of-way, which bisects the ground in question. Operations in the area will be supervised by Robert S. Lytle, vice president and general manager of Los Nietos. Objectives will be sands comparable with those producing at fields at Long Beach, Seal Beach and Huntington Beach.

Edge well drilling on the lease will call for slant holes, longer probaby than ever drilled before in oil industry annals.

Coastal and Northern District

Montalvo Jobs Drill

In Ventura County newest producing area, Montalvo, Richfield Oil Corp. is drilling at 7680 ft. with Del Cielo No. 1 in Sec. 30-2n-22w. Standard is making hole at 11,320 ft. with Maxwell No. 1 in Sec. 23-2n-23w. McGrath No. 65-3 is drilling ahead from 9616 ft., after stopping for a formation trial. Results of the interrogation are a company secret. Derrick is being rigged for Texas Co.'s J. V. No. 1 in Sec. 24-2n-23w.

Zaca Well Goes Ahead

In the Zaca area of Santa Barbara County, Tide Water Associated Oil Co. is following an uninterrupted path of drilling below 5100 ft. with Luton 71 in Sec. 32-8n-33w.

San Ardo Try Cores

Jergins Oil Co.'s San Ardo No. 23-35 in Sec. 35-22s-10e in the San Ardo area of Monterey County is coring ahead at 2537 ft. The project is being watched with considerable interest as a discovery at this location would open a new area to oil production. Texas Co., meantime, is starting Biaggi No. 1 in Sec. 12-22s-9e. In the Oasis area, the latter organization is drilling below 1750 ft. with Currell No. 2 in Sec. 4-21s-8e.

Moorpark Job Starts

The Moorpark area of Ventura County has been chosen as the scene of a new wildcat play sponsored by Jergins Oil Co. The first test is located on Sec. 16-3n-19w and called Moorpark No. 1. well.

Goleta Project Formation Tests

Honolulu Oil Corp's Honolulu-Signal-Macco No. 309-1 on State Lease No. 309 at Coal Oil Point in the Goleta area is on formation test and flowing oil through drill pipe. Flow is from the Sespe formation at a rate estimated between 150 and 200 barrels daily. Total depth is 4404 ft.

Sespe Job Drilling

Drilling has reached a depth of 185 ft. in Eagle Rock Petroleum Co.'s Eagle Rock No. 1 wildcat explorer in Sec. 36-5n-20w in the Sespe area, Ventura County.

Cat Canyon Test Digging

General Petroleum Corp.'s Realty No. 73-10, a wildcat test in Sec. 10-9n-33w in the Cat Canyon area is making hole steadily ahead below 3000 ft.

Capitan Well Still Testing

With bottom at 4335 ft. and casing cemented at 4320 ft., Rothschild Oil Co. is continuing to test at intervals in its Orella No. 1 in Sec. 31-5n-30w in the Capitan area, Santa Barbara County. A good gas blow was reported.

Gato Ridge Test Deeper

Union Oil Co. is prospecting ahead below 4200 ft. with Giorgio No. 1 in Sec. 12-8n-32w near the Gato Ridge field. Mary C. Phelan No. 1 in Sec. 32-12n-34w in the Nipomo area is down 875 ft.

Santa Paula Test Planned

Cal-State Oil Co. is understood considering the drilling of an exploratory project in the Santa Paula area. Officials of the company include M. Murdock and S. M. Brooks.

Kirby Hills Well Flowing

Standard of California has given the finishing touches to Kirby Comm. No. 5 in Sec. 23-4n-1w in the Kirby Hills area at a plugged depth of 2490 feet. Flow was rated at 2,408,000 cubic ft. of gas daily on a short run.

Ventura County Test Drills Sespe

Republic Operator, Inc., at last reports was drilling ahead at 3321 ft. in the Sespe formation, top of which was placed at 3156 ft., with Arundell No. 6-1 test in Sec. 6-4n-19w in the Sespe Forks area of Ventura County.

Incidentally, the operator recently scored another completion on 15,000-acre holdings in the Grayburg area of New Mexico. The new well, the 128th completion there, made 300 barrels initially. Other Republic activities outside of California, include an interesting wildcat near Craig, Colorado, on a 1600-acre lease north of Wilson Creek and east of the growing Rangley field.

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Round Mountain Venture Grading

Ground is being graded for Barnsdall Oil Co.'s Claire No. 1 exploratory venture in Sec. 23-28s-28e in the Round Mountain area.

Round Mountain Test Interests

Having gone through boulder beds at approximately 45 ft., J. H. Maurer and Arthur C. Fisher have carried their Linda No. 2 in Sec. 11-29s-29e in the Round Mountain area on down to 85 ft. A surface string probably will be set at present depth in order to restrain boulders from complicating normal drilling.

Northeast Coalinga Wildcat Rigging Up

Sharples Oil Corp. is rigging derrick to begin drilling Lillis No. 88-18 in Sec. 18-18s-15e in the Northeast Coalinga area of Fresno County. The company recently scored a completion in the area with Hyde No. 2, which went to a total depth of 8279 ft. in the Main Gatchell.

Gould Hills Well Pumping

Gould Hills Petroleum has completed its No. 58-8 in Sec. 8-29s-21e in the Gould Hills area near the Belridge field at 1086 ft., pumping 4 barrels of 14 gravity oil a day, cutting 60 per cent.

Lost Hills Try Sets Pipe

In the Lost Hills area, L. M. Lockhart's Kern Prop. Corp. No. 1 venture in Sec. 20-26s-22e is standing with surface pipe cemented on bottom at 700 ft.

Gato Ridge Test Works

Cleanout operations describes the present stage of Barnsdall-Richfield Oil Corp.'s Magenheimer No. 4 test venture in Sec. 8-8n-32w in the Gato Ridge area. Present work followed completion of a fishing job. Hole is bottomed at 4247 ft.

FOR SALE

Oil and Gas lease in Newhall District. Between new Union Oil Co. recent discovery well and Mutual Development Corporation well now drilling.
Box "B", c/o Calif. Oil World tf

WAR SURPLUS PLANT FOR SALE
Light plants, war surplus 110-A C, all sizes, for home or commercial use, ⅓ of original cost. Auffenberg, 820 No. Kingshighway, St. Louis, Mo. 9/20d

OIL LEASE

FOR SALE: Oil lease in Newhall area between Union Oil Company well and Mutual Development Corporation well, both wells now drilling. Box 9, c/o California Oil World.

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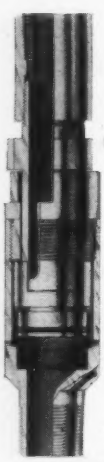

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San Joaquin Valley

Temblor Try Stands Idle

Signal Oil & Gas Co.'s Signal-Westates No. 88 in Sec. 35-29s-20e southwest of the Temblor field has suspended operations at a depth of 4509 ft. In the McDonald Anticline area, Signal - Honolulu - Carpenter No. 2 in Sec. 6-28s-19e is rigging up.

Kern Bluff Test Starts

Location for a shallow test well has been staked by Oceanic Oil Co. in Sec. 7-29s-29e in the Kern Bluff area of Kern County. Called Needham-Bloemer No. 1, the well is primarily designed to look at the Kern River-Santa Margarita sand which Shell uncovered in its Afana No. 1 discovery hole. The latter went to approximately 1150 ft. for a yield of about 25 barrels daily, before abandonment three years ago.

Mt. View Job Rigs Derrick

American Oil Corp. of Fresno is rigging up for Kennedy No. 1 in Sec. 9-30s-28e in the Mountain View area. More than 1500 acres are reported under lease.

Jasmine Test Still Working

Quinn Ranch Oil Co.'s Quinn No. 1 wildcat in Sec. 15-25s-27e in the Jasmine area is washing perforations at 2930-2945 ft., after the well bailed dry. Total depth is 2960 ft., with casing set on bottom.

McFarland Try Fading

Universal Consolidated Oil Co. continues to drill ahead at 5240 feet with Marquis No. 1 wildcat test in Sec. 19-26s-27e in the McFarland area. Both the Vedder and Walker sands found higher, were gray and barren.

Mount Poso Test Slated

East of the Poso Creek field, Gene Reid Exploration Co. is ready to start work on K. & M. No. 1 test, some 330 ft. south and a similar distance east from the west quarter corner of Sec. 7-27s-29e. The drill site is about two miles east of a wildcat well drilled 16 years ago by T. A. Piper to 1750 ft., without commercial results.

Weedpatch Well Ends Oil Search

In the Weedpatch area immediately west of the Mountain View field, General Petroleum Corp. has abandoned at 6806 ft. its Kernsummer No. 27-22 in Sec. 22-30s-28e. Bottom is in hard sandstone, with Base Chanac at 6345 ft. and Top Carbonaceous Silt at 6770 ft. Glazier No. 32-2 in Sec. 2-30s-29e, a Race Track Hill outpost project, is making hole at 5809 ft.

Alpaugh Job Rigs Derrick

Near Alpaugh in Kings County, Sunray Oil Corp. is rigging derrick to start the drill in Richardson Estate No. 1 in Sec. 13-23s-22e. Gas was developed in the area by Standard of California in 1944.

Kern River Well Bails

W. D. Gould and Horace Steele's KCL No. 1, an extension test of the Kern River field in Sec. 8-29s-28e, is bailing from 1657 ft. Casing is set at 1467 ft.

Cymric Well Hits Gray Sand

Independent Exploration Co.'s Cymric No. 22 test well in Sec. 21-29s-21e in the Cymric area has been drilled to a depth of 4990 ft. and in doing so apparently found the Oceanic sand to be gray. The company's next move probably will be to whipstock for a look at the Oceanic zone elsewhere.

Middle Dome Test Redrills

Standard of California continues to drill steadily ahead below 10,300 ft. with No. 73-30V in Sec. 30-23s-19e in the Kettleman Hills Middle Dome area. Original depth is 12,389 ft. in Eocene oil sand. S. F. & F. L. No. 4-2, meanwhile, is rigging derrick in Sec. 12-25s-19e in the South Dome area. Ferguson No. 21-6n in Sec. 6-22s-16e in the Jacalitos area is digging on down at 1502 ft. Lerdo Land Co. No. 10-6 in Sec. 7-28s-27e in the Premier area is still a location only.

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San Emigdio Area Active

Continental Oil Co. is fishing drill pipe in its KCL No. L-1 in Sec. 11-11n-22w in the San Emigdio area. Top of fish is 9279 ft. Original depth is 10,424 ft., with redrill level 10,359 ft. No. L-2 in Sec. 8-11n-21w is drilling below 3900 ft. No. M-1 in Sec. 27-11n-22w is making hole at 8017 ft. Apex Petroleum Corp., Ltd., is building roads for KCL No. 1 in Sec. 5-10n-22w.

McKittrick Tests Drill

In the McKittrick area, Texas Co. is drilling Tulare NCT One No. 17-28 in Sec. 28-30s-22e at 4380 ft. West Pet NCT One No. 26-29 in Sec. 29 is digging at 3992 ft.

Fruitvale Try Going

Drilling at 6632 feet is the current status of the combination wildcat sponsored by Superior Oil and Independent Exploration in the Fruitvale area. The project is known as KCL-A No. 57-13 and is located in Sec. 13-29s-27e.

Ten Section Test To Swab

Shell Oil Co. is preparing to swab for production with KCL-A No. 53-30 in Sec. 30-30s-26e in the Ten Section area. Drilled to a bottom of 14,000 ft., results of swabbing the interval of 13,026-13,195 ft. were negative. This was followed by perforation of an interval higher.

Wheeler Ridge Wildcat Deeper

Redrilling has gone beyond the 5000-ft. level in Richfield Oil Corp.'s Wheeler-Ridge-KCL No. C-1 wildcat test in Sec. 20-11n-20w in the Wheeler Ridge area. The venture went first to 6344 ft., before backing up for a fresh start.

Cymric Test Redrills On

Anderson No. 4, sponsored by Rothschild-Bender Oil Operations in Sec. 20-29s-21e in the Cymric area, is redrilling at 3960 ft. Old bottom is 5276 ft.

THIS LAUGH

OFF!!

"Money," solemnly intoned the good judge, "isn't everything. It is not money that will heal the pain of a broken heart or put together again the fragments of a broken dream. Money cannot bring happiness to a shattered home nor repair the ravages of a misspent life."

The judge paused, and then on a more cheerful note he concluded: "I refer, of course, to Confederate money."

One tried and sure method of getting your wife home soon from an out-of-town vacation is to send her a copy of the local paper with one item cut out.

A man pinned underneath his car after an auto accident was being questioned by a policeman.

"Married?"

"No," said the man, "this is the worst fix I was ever in."

A minister was asked by one of his members to say prayers on Sunday for Anna Belle. The clergyman did so. A few days later the pastor asked the church member if he desired the prayers for Anna Belle to be repeated.

"Thanks, no," replied the member. "She won last Wednesday at seven to one."

"Is that girl's dress torn or am I seeing things?"

"Both!"

FOUND: Woman's bag left in my parked car. If owner will pay for this advertisement she can have it. If she will tell my wife how bag happened to be there, I'll pay cost of adv't. Telephone Jefferson 8100—the quicker the better.

Headline in New York newspaper: "Father of Ten Shot—Mistaken for Rabbit."

"I'll never go anywhere again with you as long as I live."

"And why not?"

"You asked Mrs. Smith how her husband was standing the heat and he's been dead two months."

The dean of a college was investigating a charge made by some of the girls that the men who lived in the fraternity house next door forgot to lower their shades.

The dean looked out of the sorority window and said. "Why, I can't see into any of the fraternity house windows."

"Oh, yes, yon can!" chorused the girls, "All you have to do is get up on a chair."

Teacher (in grammar class): "Willie, please tell me what it is when I say 'I love, you love, he loves'."

Willie: "That's one of them triangles where somebody gets shot."

Mrs. Box: "Yes, our furniture is very antique, this bed, for instance, goes back to Louis XIV."

Mrs. Knox: "Oh, well, don't feel so bad; our whole living room outfit goes back to Cohen the 30th."

The good old days were those when Uncle Sam lived within his income—and without most of ours.

It's been suggested that when the present divorce wave subsides, someone should publish a "Who's Whose."

Golfer (to players ahead): Would you mind if I played through? I've just been notified that my wife is seriously ill.

"Porter, get me another glass of ice water."

"Sorry, suh, but if I takes any mo' ice, dat co'pse in de baggage car ain't going to keep."

"The true value of horse sense is clearly shown by the fact that the horse was afraid of the automobile during the period in which the pedestrian laughed at it."

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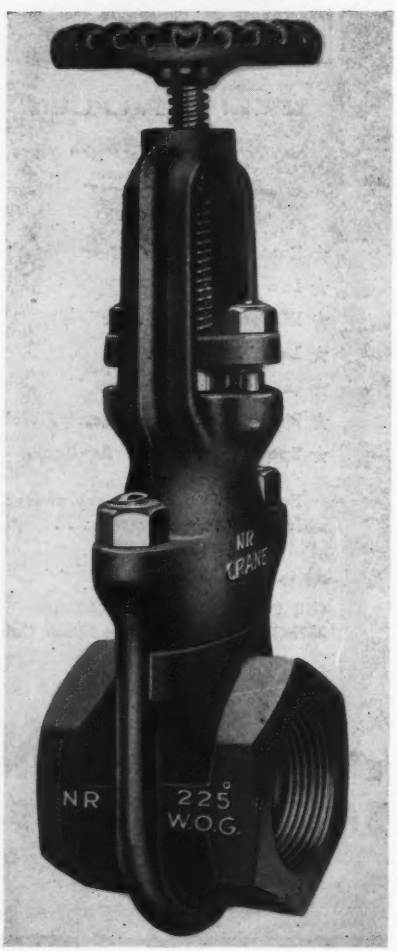
Crane Reinstates Ni-Resist Gate Valves

Crane Co., 836 S. Michigan Ave., Chicago, announces the reinstatement of its line of Ni-Resist Cast Iron Gate Valves, which was discontinued prior to the war.

The valves are of the wedge disc, outside screw and yoke type and are being regularly furnished with screwed ends in sizes from ½- to 2-inches and with flanged ends in sizes from 1- to 8-inches. All valves in sizes 3-inches and smaller have the clamp type bolted bonnet and sizes 4- to 8-inch inclusive have the conventional type of bolted bonnet.



Body and bonnet of all valves, the disc in sizes 4-inch and larger, and the gland in sizes 3-inch and smaller are made of Ni-Resist. The strength and physical characteristics of Ni-Resist are about the same as those of cast iron; but resistance to erosion and wear is definitely superior to that of cast iron, and corrosion resistance is substantially better.

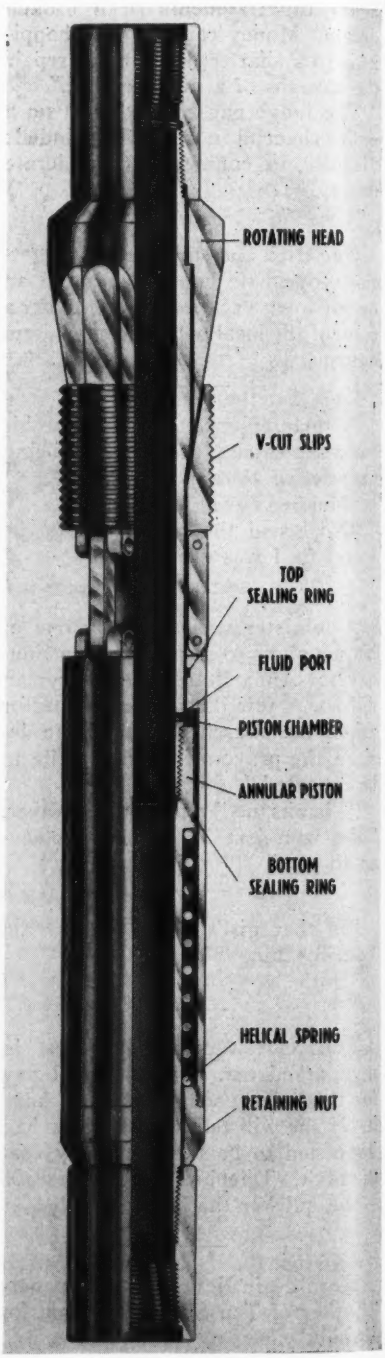
To add to their corrosion resistance, the stem and body seat rings, the disc in sizes 3-inch and smaller, and the disc facings in sizes 4-inch and larger are made of Crane 18-8 alloy steel.

The Crane Ni-Resist valves are especially suitable for soda and sulfate pulp mill service, for creosote used in wood preserving, for handling sour distillates and crudes in petroleum refinery work and for other services in which the fluids to be handled require a less active metal than cast iron, but in which the cost of special corrosion-resisting valves is prohibitive.

New "Tension-Type" Tubing Anchor

The new Page "TENSION" Tubing Anchor departs from the conventional "catcher-type" tubing anchor to provide a hydrostatically-set, hydraulically-held tubing anchor for anchoring tubing in pre-set tension. Its unique spring-retracted slip design eliminates drag springs, mechanical setting devices, etc., to assure full run-in of tubing without danger of pre-setting slips before desired depth is reached. A helical spring in the lower part of the Page "TENSION" Anchor retracts the slips during run-in and pull-out of tubing. Unlike compression anchors, the Page Anchor employs helical spring action as a safety feature to retract and hold slips in their un-set position instead of using the spring to set the slips.

Before setting the Page "TENSION" Tubing Anchor, the tubing string is elongated by slacking the weight of the rods against the pump



shoe. After tubing is elongated the desired amount, it is completely filled with fluid to create a hydrostatic pressure on the Tubing Anchor. The pressure thus created enters through ports between two sealing rings to cause an upward thrust on the slip piston to engage slips and a downward thrust on the tubing to pull the cone of the anchor into the slips.

The hydrostatic head employed to force the annular piston upward holds the slips in strong tension against the casing wall. By the hydraulic principle, the pressure thus held exerts equal resistance to upward or downward movement of the tubing within the casing regardless of pumping conditions.

The Page Anchor is released by bleeding the tubing of fluid and allowing the helical spring to retract the slips into their un-set position.

Two other important advantages of the Page "TENSION" Tubing Anchor are its streamlined design and ample water course clearance to permit easy passage of Depthometers, testing tools, etc., and the fact that it permits easy rotation of the entire tubing string while the tubing is held under tension by the anchor. Manufactured by Page Oil Tools, Inc., Long Beach 7, Calif.

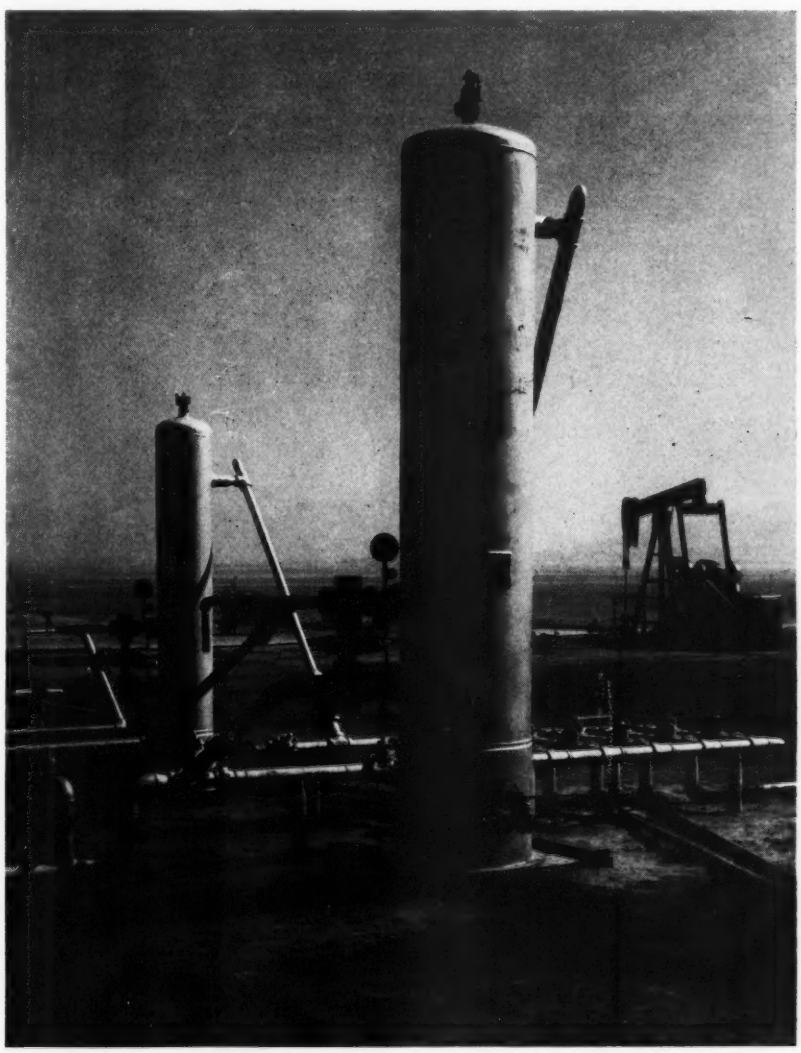
Baroid Introduces New Gas Trap

The Baroid Specialties Department now presents the Autotrol, a floatless separator or gas trap. The Autotrol, which has set a record of unequalled economical and trouble-free operation in four years of exacting field trial, has been installed in many oil fields during the past few months.

Experience has proved that the float mechanism of the conventional separator, with its stuffing box, lever arms and exposed moving parts, forms the basis of most conventional separator troubles. Autotrol separators embody a radically different and vastly superior means of controlling oil and gas flow. The system has no stuffing box and no moving parts within the tank. Differential pressure of the gas and oil within the tank, acting upon an enclosed diaphragm outside the tank, actuates the dual valves controlling the flow of separated oil and gas flow. Maintenance costs are negligible, due to the accessibility of the valve control mechanism on the outside of the tank.

The Autotrol precision-built control mechanism consists of two valves directly connected to each other by a single stem operated by an intervening diaphragm. Pilot lines from the oil and gas outlets lead to the lower and upper sections respectively of the diaphragm chamber so that actual movement of the diaphragm becomes a function of the liquid level within the shell. The weight of the assembly normally holds the oil valve closed until the liquid in the shell rises to a level a few inches above the level of the diaphragm. Beyond this point an additional rise of less than one inch completely opens the oil valve and closes the gas valve.

The oil producer will find many advantages in the Autotrol system. The entire valve assembly is mounted on the outside of the separator. Housing of the single moving part prevents damage from tampering or exposure to the weather. The whole unit may be serviced in only a few minutes. The pressure-regulated control requires no manual adjustment either prior to installation or at any time during operation, and will immediately adjust itself to conform to gathering line pressures. Instantaneous valve action and dual control substantially reduce the hazard of discharging oil into the gas line and gas into the oil line.



Installation of two Autotrols in a California oil field. The Autotrol is Baroid Sales Division's new floatless oil and gas separator. The big trap in the foreground handles the production of eight wells. The smaller separator in the background is for metering.

Autotrol eliminates the need for back-pressure regulators because the gas discharge valve automatically controls the pressure within the tank, thereby forcing the oil into the oil gathering lines. Lastly, the incoming oil inlet provides an effective means of handling foaming oil. The incoming oil falls directly on the surface of the oil within the shell, thereby continually breaking down the bubbles of foam.

Autotrol comes in three sizes to accommodate a wide range of producing volumes, pressures, gravities and gas-oil ratios. Special Autotrols will be constructed to meet extreme or unusual conditions which the three standard types will not handle. Careful design and precise construction have made all parts interchangeable. Construction of the Baroid Autorol conforms to ASTM standards throughout.

Superior Engine Div. Issues New Bulletin

The Superior Engine Division of The National Supply Company has issued a new 28-page bulletin describing all models of the company's stationary Diesel engines. The new bulletin describes and illustrates how Superior stationary Diesels are designed and built. It carries 46 photographs, 8 performance charts, standard and special equipment tables and 5 dimensional blueprints including foundation sizes and amount of concrete required. Horsepower ratings and specifications are given for all engines, both supercharged and non-supercharged.

Superior stationary Diesels are of the four cycle, cold starting, mechanical injection type. Superior was founded in 1888 and was among the first in this country to build internal combustion engines. The first natural gas engines of the company supplied the power for drilling and pumping the North Lima oil field then at its peak. Later, Superior purchased the famous Otto Engine Works to obtain the rights to build a full Diesel engine and thus has been a pioneer in the development of the Diesel. Just before the war Superior completed a $250,000 research laboratory and now is carrying out an expansion and improvement program for which $1,525,000 has been allotted by the parent company.

Copies of the stationary Diesel bulletin, No. 4705, may be obtained by writing the General Sales office of the Superior Engine Division, The National Supply Company, Springfield, Ohio. Copies of a new bulletin on Superior's marine Diesels also are available.

L. D. Hall, District Manager for Taylor Forge & Pipe Works, is pictured sitting on one of the 30-inch ells produced by his Company.

In the designing of the 214 miles of 30-inch line running from Blythe to Los Angeles, it was necessary to provide elbows for the purpose of changes in the grade and changes in direction. Mr. B. M. Laulhere, Chief Engineer for the Southern California Gas Company, designed a 30-inch seamless 90° welding ell which would withstand the 810 lb. pressure and made to very close tolerances so that it could be cut into segments of varying degrees as required by the varying changes in grade and direction. The elbows were, therefore, specified as 30-inch outside diameter to have a ½-inch thick wall and to be held within plus or minus 1/16-inch nominal diameter through the entire length of the fittings. These specifications call for a seamless welding elbow which was larger than anyone had ever made before. The specifications also called for no tangents on either end.

Taylor Forge & Pipe Works of Chicago was awarded the contract for producing these fittings. Most of the ells are now on the job and many have been installed on the line. **They live up to the rigid specifications set up by Mr. Laulhere in every respect.**

Axelson Offers A Complete Line of Stainless Steel Pumps

Stainless steel, which is first remembered as a line of fancy cutlery for the well appointed table, now has gone deep underground, to fight corrosion, arch enemy of oil well pumping.

Deep well plunger pumps, because of their trim construction and efficiency within very narrow limits at well bottom, are constantly endangered by what the industry calls "sour crude," which carries corrosive impurities. This condition exists, to varying degrees, almost everywhere. It is met, with the greatest assurance, by the use of stainless steel, which has high resistance to corrosion.

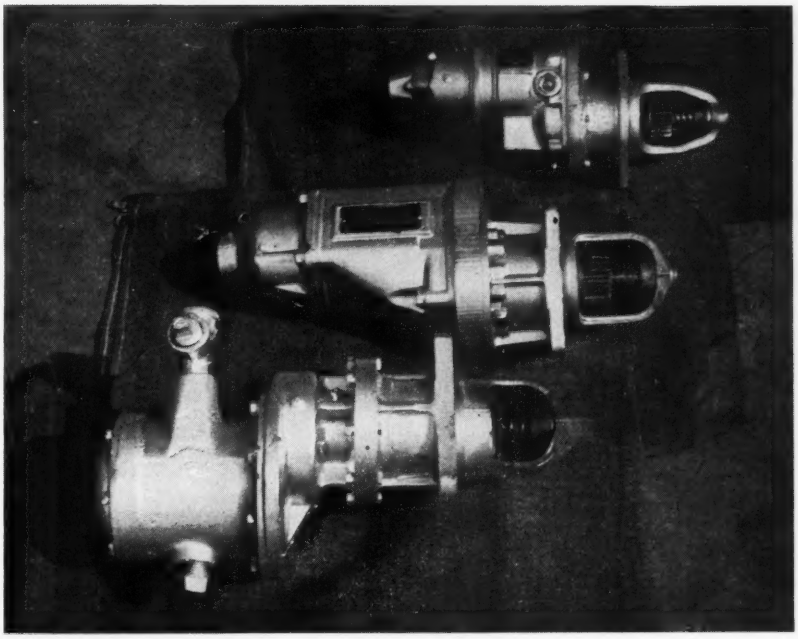
Axelson announces a complete line of its pumps in stainless steel so that, wherever corrosion may be encountered, there will be a pump to suit conditions there. New manufacturing methods, the Los Angeles firm states, geared to a growing demand from oil producing areas where corrosion causes too much "down time," have combined to place these pumps on the market at costs little higher than the standard lines. Considering the protection against corrosion, the manufacturers add, the new line offers a rare bargain in peace of mind alone.

The new pumps are completely API and are fully described in a new special bulletin, which will be sent on request.

New Airstarter For Internal Combustion Engines

The petroleum industry has always been alert for any means of reducing accidents and fires, and has always been eager to accept new methods and equipment to reduce these hazards. The growing use of compressed air engine starters to replace electric starting on gas engines and high speed Diesel engines, particularly in gasoline and compressor plants, is another example of constant improvement, both in safety and plant operations.

The Bethlehem Supply Company of California has developed a line of "Airstarters" to fit practically any make or model of multi-cylinder engine normally using electric starting. These starters are available in several sizes, and in the particular specifications required for any engine, and replace the conventional electric starter motor without any modifications of the engine. Their use is not limited to plant engines, however, as they are being used in increasing numbers on drilling engines and well servicing equipment, particularly where an air supply is available as is the case with many of the newer rigs.



The three sizes of "Airstarter" illustrated above, by using the appropriate adapters provide sure cranking service for almost all engines, gasoline or Diesel.

In addition to the reduced fire hazard the use of the "Airstarter" eliminates the costly and trouble-some maintenance of storage batteries and their necessary charging apparatus, and provides reserve power and fast cranking speeds to insure quick and certain starting.

Howard Supply Celebrates Tenth Anniversary

September marks the tenth anniversary of the founding of Howard Supply Company. The firm, with its original five employees, moved into the vacated five-acre plant of the old Union Iron Works at 5125 Santa Fe Avenue, Los Angeles, in 1937.

Ten years later, Howard Supply is entitled to a little boasting, for the firm has grown to include ten field stores in California oil producing areas, a warehouse at Oakland to serve territory north of San Francisco, as well as the original Los Angeles plant. The staff of five employees now numbers well over two hundred and, where the firm first represented two lines of equipment, that number also has passed the two hundred mark.

Under the aggressive leadership of Harold E. Howard and four other incorporators, L. George Trembley, Arthur G. Moyer, Earl Covel and Don Lucas, Howard Supply built a reputation for specialized service which is now maintained by more than forty field men who cover the California territory.

Congratulations are in order for this organization which has proven itself in just one decade . . . and has pledged itself to give continued service and quality products to the petroleum industry in the years to come.

Main office, Los Angeles

Orcutt Try Flows

Sunray Oil Corp. has completed another well in the Orcutt area of Santa Barbara County. It is Los Flores No. 2 in Sec. 4-8n-33w, which came in for 100 barrels of oil and 654,000 cubic ft. of gas a day from 5527 ft. Los Flores No. 1-A is running tubing, after cementing casing at 637 ft., which froze. The well is bottomed at 940 ft. and will be finished on the pump.

American Meter Company announces the opening of its new factory and office building, 950 Tennessee Street, San Francisco 7, California, on August 1, 1947.

The new San Francisco headquarters of American Meter Company will coordinate and round out the total gas meter production for the requirements of the Pacific Coast. The new plant is a steel, brick and concrete structure of modern design and fireproof construction. The building was designed by John Henry Devitt, architect and built by Fred Schell, general contractor, both of San Francisco.

The factory is completely equipped with the most modern machinery and facilities for the manufacture, repair and testing of gas meters and is outstanding from the standpoint of appearance, light and ventilation.

The official opening was celebrated by Open House for American Meter Company employees, their families and friends and the gas men of Northern California.

C.N.G.A. Fall Meeting Scheduled for Oct. 10th

With three out-of-state and two California men on the speaking program, the California Natural Gasoline Association's 1947 Fall Meeting will be held Friday, October 10th, at the Ambassador Hotel, Los Angeles, Frank J. Colton, CNGA president, has announced. The speaking program has been arranged by the Fall Meeting Committee, of which R. S. Ridgway, Standard Oil Company, is chairman. The evening dinner and show will be under the direction of the Entertainment Committee headed by R. E. Raasch, OFCCO Construction Company. Plans are also being made for an all-day session of CNGA's Technical Committee on Thursday, October 9th, to which members of the Technical Committee of the Natural Gasoline Association of America will be invited.

The papers to be presented at the Fall Meeting will be of great interest to natural gasoline men, and to oil men generally. Speakers and their topics are as follows:

"Adaptability of Centrifugal Compressors to Gasoline Plant Operations" by Dan McDonald, Magnolia Petroleum Company.

"Motor Fuel Sensitivity" by E. J. McLaughlin, California Research Corporation.

"Cycling at High Pressures vs. Depletion and Cycling at Low Pressures" by E. O. Bennett, Consulting Engineer.

"Future Outlook for B.T.Us in California" by Marion Dice, General Petroleum Corporation.

C. L. Moore, El Paso Natural Gas Company, will give a general descriptive paper on that Company's operations in connection with the delivering of natural gas to California.

Correction

During the month of March this magazine printed the announcement of a new V-belt drive which had been developed and manufactured by the Anderson O'Brien Company of Los Angeles, California. The Anderson-O'Brien Company brought our attention to a possibility of misinterpretation of this announcement and have made the request that we cooperate with them by printing the following:

"The General Motors Series 71 Twin 6 engine (Model 12103HD) has been designed specifically to take pulley and chain drive thrust without need for a special cradle-mounted sheave or sprocket."

Meletron Corporation's Model 310 Pressure Operated Switch

This device has been widely used as a control mechanism in such fields as, chemical processing, petroleum, food processing, heating and air conditioning, pneumatic and hydraulic systems, machine tools, aircraft, etc. The Model 310 is one of Meletron's wide line of switches actuated by the pressure of liquids, air or gases.

These devises embody such special features as convenient adjustment, explosive-proof design for hazardous installations or construction which prohibits tampering, by the operator, with the pre-set operating characteristics. The Meletron Corporation offers an extensive line of pressure operated switches from stock and is equipped to design and manufacture in large quantities devices for specific applications.

Shell Stakes Winters Test

Shell Oil Co. has staked location for Winters Unit No. 6-1 in Sec. 33-8n-1e in the Winters area of Yolo County. Heinz Unit No. 1 in Sec. 20 is an abandonment at 5300 ft.

Butte County Wildcat Fails

General Petroleum Corp. has given up its second prospect job in the Willows area of Butte County. The latest test, known as Llano Seco No. 2 went to a total depth of 3050 ft. in gray sand and shale. Location falls in Sec. 28-10n-1w.